Scout Report sent out	☑
Noted in the NID File	☑
Location map pinned	☑
Approval or Disapproval Letter	☑
Date Completed, P. & A. or operations suspended	11-16-57
Pin changed on location map	☐
Affidavit and Record of A & P	☐
Water Shut-Off Test	☐
Gas-Oil Ratio Test	☐
Well Log Filed	☑

FILE NOTATIONS

Entered in N I D File	✓	Checked by Chief	✓
Entered On S R Sheet	✓	Copy N I D to Field Office	✓
Location Map Pinned	✓	Approval Letter	✓
Card Indexed	✓	Disapproval Letter	
I W R for State or Fee Land			

COMPLETION DATA:

Date Well Completed 11-16-57 — Location Inspected

OW ✓ WW TA — Bond released

GW OS PA — State of Fee Land

LOGS FILED

Driller's Log 11-16-57

Electric Logs (No.) 4

E I ✓ E-1 ✓ GR GR-N Micro 2 ✓

Lat Mi-L Sonic Others 2 - Radioactivity

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS:
5-1-68 Subsequent Report of Squeezing Cement and Acidizing.
12-1-83 Operator name change
Approved for Water Injection 6-18-84

120402

(Have Fed) Withdrawn & Effective Date

DATE FILED 9-6-57 Nav-14-20-

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. INDIAN 603-353

DRILLING APPROVED: 9-6-57

SPUDDED IN: 9-12-57

COMPLETED: 10-16-57

INITIAL PRODUCTION: 894 BOPD

GRAVITY A. P. I. 41°

GOR

PRODUCING ZONES: Abajo: 5611-5778'

TOTAL DEPTH: 5814' Abajo.

WELL ELEVATION: 4833 DF

DATE ABANDONED:

FIELD OR DISTRICT: ~~Rutherford~~ Aneth

COUNTY: San Juan

WELL NO. DESERT A-2 (Rutherford 18-32) API 43-037-15786

LOCATION: 2140 FT. FROM (N) (S) LINE, 1830 FT. FROM (E) (W) LINE. SW¼ NE¼ QUARTER - QUARTER SEC. 18

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
41 S	24 E	18	PHILLIPS Oil Co. PETROLEUM				

GEOLOGIC TOPS:

QUATERNARY	Star Point	Sinbad	Brazer
Recent	Wahweap	PERMIAN	Pilot shale
Alluvium	Masuk	Kaibab	Madison
Lake beds	Colorado	Coconino	Leadville
Pleistocene	Mancos	Cutler 2630'	Redwall
Lake beds	Upper	Hoskinnini	DEVONIAN
TERTIARY	Middle	DeChelly 2760'	Upper
Pliocene	Lower	White Rim	Middle
Humboldt	Emery	Organ Rock 2860'	Lower
Salt Lake	Blue Gate	Cedar Mesa	Ouray
Miocene	Ferron	Halgaite tongue	Elbert
Bishop conglomerate	Frontier	Phosphoris	Guilmette
Oligocene	Dakota	Park City	Simonson dolomite
Norwood	Burro Canyon	Rico (Goodridge) 4100'	Sevy dolomite
Eoc[illegible]	Cedar Mountain	Supai	North Point
Duche[illegible]ne River	Buckhorn	Bird Springs	SILURIAN
Uinta	JURASSIC	CARBONIFEROUS	Laketown dolomite
Bridger	Morrison	Pennsylvanian	ORDOVICIAN
Green River	Salt Wash	Oquirrh	Eureka quartzite
Upper	San Rafeal Gr.	Weber	Pogonip limestone
Middle	Summerville	Morgan	CAMBRIAN
Lower	Bluff sandstone	Hermosa 4585'	Lynch
Wasatch	Curtis	Upper	Bowman
Colton	Entrade	Lower	Tapeats
Flagstaff	Moab tongue	Molas	Ophir
Almy	Carmel	Paradox Shale: 5592'	Tintic
Paleocene	Glen Canyon Gr.	A	PRE-CAMBRIAN
Current Creek	Navajo 710'	B	
North Horn	Kayenta 1100'	C	Adajo. 5600'
CRETACEOUS	Wingate 1150'	Manning Canyon	
Montana	TRIASSIC	Mississippian	
Mesaverde	Chinle 1590'	Chainman shale	
Price River	Shinarump 2400'	Humbug	
Blackhawk	Moenkapi 2'	Joana limestone	

Form 9-331 b
(April 1952)

Budget Bureau No. 42-R359.4.
Approval expires 12-31-60.

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Indian Agency Navajo

Allottee Tribal

Lease No. 14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	X	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Denver, Colorado September 4, 1957

Desert "A"
Well No. 2 is located 2140 ft. from [N] line and 1830 ft. from [E] line of sec. 18

SW/4 NE/4 Sec 18 (¼ Sec. and Sec. No.) | 41 South (Twp.) | 24 East (Range) | S.L.M. (Meridian)

Aetherford (Field) | San Juan County (County or Subdivision) | Utah (State or Territory)

The elevation of the derrick floor above sea level is ..... ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill 12-1/4" hole to 1600, set 8-5/8" casing and cement to surface. Drill 7-7/8" hole to approximately 6300, run and cement 5-1/2" casing and complete in Paradox formation.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Phillips Petroleum Co.

Address 1300 Denver Club Bldg.

Denver 2, Colorado

By W. M. Saul
W. M. Saul

Title Division Superintendent

U. S. GOVERNMENT PRINTING OFFICE 16—8437b-8

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building
Denver 2, Colorado

September 4, 1957

Mr. Cleon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
State Capitol Building
Salt Lake City, Utah

Dear Mr. Feight:

We attach herewith Form 9-331 b, Notice of Intention to drill our Desert "A" #2 in Section 18, 41 South, 24 East, San Juan County, Utah.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

CCK:1
Attachment

17

September 6, 1957

Phillips Petroleum Company
1200 Denver Club Building
Denver 2, Colorado

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Desert A-2, which is to be located 2140 feet from the north line and 1830 feet from the east line of Section 18, Township 41 South, Range 24 East, SLBM, San Juan County, Utah.

Please be advised that insofar as this office is concerned, approval to drill said well is hereby granted.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT
SECRETARY

CBF:cn

cc: Phil McGrath
USGS, Farmington,
New Mexico

DR-USGS

16

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building
Denver, Colorado

September 19, 1957

Mr. Cleon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
State Capitol Building
Salt Lake City, Utah

Dear Mr. Feight:

Attached you will find two plats showing the location of our Desert "A" #2, the drilling of which you approved by your letter of September 6, 1957. We did not have these plats available at the time we sent you the Notice of Intention.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

CCK:L

Attach.

14

Company PHILLIPS PETROLEUM COMPANY

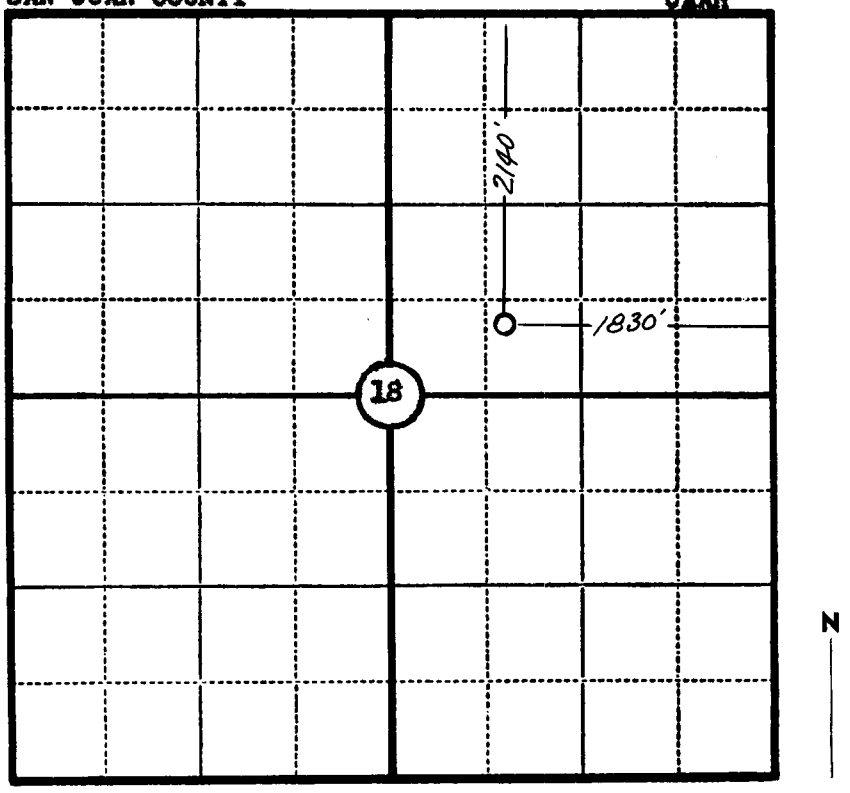
Lease NAVAJO DESERT CREEK Well No. A - 2

Sec. 18, T. 41 S., R. 24 E., S.L.M.

Location 2140' FROM THE NORTH LINE AND 1830' FROM THE EAST LINE.

Elevation TBM 150' West of Location : 4791.0

SAN JUAN COUNTY UTAH



Scale—4 inches equal 1 mile.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

James P. Leese

Seal: Registered Land Surveyor.

James P. Leese
Utah Reg. No. 1472

Surveyed 31 August, 19 57

SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.

State of Utah
OIL & GAS CONSERVATION COMMISSION
Room 140, State Capitol Building
Salt Lake City 14, Utah

October 15, 1957

W. M. Schul,
Division Superintendent
Phillips Petroleum Company
1200 Denver Club Building
Denver, Colorado

Re: REQUEST FOR "REPORT OF OPERATIONS & WELL STATUS REPORT"

Dear Sir:

Your attention is directed to Rule C-22, General Rules and Regulations and Rules of Practice and Procedure, which was adopted by the Commission on July 9, 1957.

Said rule provides for the submitting of a report of operations and well status report to the Oil and Gas Conservation Commission.

Your compliance with said rule is hereby requested.

We are enclosing some copies of Form OGCC-4, "Report of Operations and Well Status Report", for completion and return. For your convenience, Rule C-22, has been printed on the back of said form.

Federal Form 9-329, Lessee's Monthly Report of Operations may be used in lieu of Form OGCC-4.

Please note that if two legible copies, carbon or otherwise, of the report filed monthly with the United States Geological Survey on Form 9-329, are also filed each month with this Commission, it will be deemed compliance with Rule C-22, Paragraphs 1, 2, 3, and 4.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

Cleon B Feight
CLEON B. FEIGHT
SECRETARY

CBF:cn

12

Form 9-331 b
(April 1952)

Budget Bureau No. 42-R-359.2.
Approval expires 12-31-55.

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Indian Agency Navajo

Allottee Tribal

Lease No. 14-20-603-353

Noted
Cal
10-28-57

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	X
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Denver, Colorado October 15, 1957

Desert "A"
Well No. 2 is located 2140 ft. from {N} line and 1830 ft. from {E} line of sec. 18

SW/4 NE/4 Sec 18 (¼ Sec. and Sec. No.) | 41 South (Twp.) | 24 East (Range) | S.L.M. (Meridian)

Ratherford (Field) | San Juan County (County or Subdivision) | Utah (State or Territory)

The elevation of the derrick floor above sea level is 4833 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drilled to 5814. Ran 139 joints of 5½" OD 14# J-55 8rd R3 STC casing set at 5813' RKB. Cemented with 166 sacks regular cement, 117 sacks Diacel "D" and 573# calcium chloride. Pumped plug down to 5781', job completed at 10:00 p.m. October 7, 1957. WOC 24 hours, tested casing with 500# for 15 minutes, held OK.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Phillips Petroleum Co.

Address 1200 Denver Club Bldg.

Denver 2, Colorado

By W. M. Selmi

Title Division Superintendent

13
W

U. S. GOVERNMENT PRINTING OFFICE 16—84376-7

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building
Denver 2, Colorado

October 17, 1957

Mr. Cleon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
Salt Lake City, Utah

Dear Mr. Feight:

Enclosed herewith are two copies each of the following logs run on Phillips Petroleum Company - Aztec Oil & Gas Company's Desert "A" #2, San Juan County, Utah.

1. Welex Gamma Ray log
2. Welex Gamma Ray N Neutron log.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

CCK:L

Attachment

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building

Denver, Colorado

October 17, 1957

Mr. Cleon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
Salt Lake City, Utah

Dear Mr. Feight:

Attached please find two copies of Chemical & Geological Laboratories Full Diameter Corestudy taken on Phillips Petroleum Company - Aztec Oil and Gas Company's Desert "A" #2, San Juan County, Utah.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

CCK:mw

Attach:

9
w

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building
Denver 2, Colorado

October 16, 1957

Mr. Cleon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
State Capitol Building
Salt Lake City, Utah

Dear Mr. Feight:

Enclosed herewith are two copies each of the following logs run on Phillips Petroleum Company - Aztec Oil and Gas Company's Desert "A" 2, San Juan County, Utah.

1. Schlumberger Micro Log
2. Schlumberger Induction - Electrical Log

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

WMS:L

Attachment

NOV 6 1957

PHILLIPS PETROLEUM COMPANY

PHILLIPS-AZTEC NO. 2 DESERT

SE SW NE 18-41S-24E

HERMOSA

NORTH DESERT CREEK, UTAH

CHEMICAL & GEOLOGICAL LABORATORIES

CHEMISTS GEOLOGISTS ENGINEERS

P O BOX 279
CASPER, WYOMING

October 25, 1957

Phillips Petroleum Company
1200 Denver Club Building
Denver, Colorado

Re: Phillips - Aztec No. 2 Desert
North Desert Creek
San Juan County, Utah

Gentlemen:

Core from the No. 2 Desert well was sampled and analyzed by CHEMICAL & GEOLOGICAL LABORATORIES at Farmington, New Mexico.

Full diameter corestudy shows the interval analyzed to be tight and dense and therefore nonproductive. Production may be possible through the fractures which exist throughout the interval but fluid produced in this manner is expected to be largely water.

Very truly yours,

CHEMICAL & GEOLOGICAL LABORATORIES

Roger Artley

Roger Artley
Laboratory Manager

RA:mb

CHEMICAL & GEOLOGICAL LABORATORIES

521 So. Center P. O. Box 279
Casper, Wyoming

CORE SUMMARY AND ESTIMATED RECOVERABLE OIL

CORE SUMMARY

Formation Name		Hermosa
Depth—Feet		5510 - 5560
Feet of Permeable Productive Formation		45
Porosity	Minimum	0.1
	Maximum	2.0
	Weighted Average	0.4
Permeability	Minimum	0.01-
	Maximum	3.92
	Weighted Average	0.27
Capacity—Average Porosity x Feet Productive Formation		19.4
Weighted Average Residual Oil Saturation, % Pore Space		3.8
Weighted Average Total Water Saturation, % Pore Space		67.2
Weighted Average Connate Water Saturation, % Pore Space		
Formation Volume Factor		
Probable Type of Production		No production

Remarks:

ESTIMATED RECOVERABLE OIL

Stock Tank Oil in Place:
- Barrels Space per Acre-Foot
- Barrels Connate Water per Acre-Foot
- Barrels Reservoir Oil per Acre-Foot
- Barrels Stock Tank Oil per Acre-Foot

Solution Gas Drive:
- Barrels per Acre-Foot
- Barrels per Acre

Water Drive:
- Barrels per Acre-Foot
- Barrels per Acre

CHEMICAL & GEOLOGICAL LABORATORIES

Casper Glendive Farmington Sterling

FULL DIAMETER CORESTUDY

Operator Phillips Petroleum Company Field North Desert Creek, Utah Formation Hermosa

Well No. Phillips-Aztec # 2 Desert A Location se sw ne 18-41s-24e Depths 5510-5560

Elevation 4833 DF Date October 21, 1957 Lab. No. F-1051

Sample No	Representative of Feet	Footage	Permeability Radial	Permeability Vertical	Effective Porosity	Density Bulk	Density Matrix	Saturation % of Pore Space Residual Oil	Saturation % of Pore Space Water		Description
	Core # 1	5510-5535	Rec. 22'								
1	5510-11		0.02		0.9	2.68	2.70	0	42.2	VF	SP
2	5511-12		0.05		1.2	2.66	2.70	0	21.7	VF	SP
3	5512-13		0.01		0.6	2.65	2.67	Trace	43.3	NF	
4	5513-14		0.13		0.1	2.66	2.66	0	90.0	VF	
5	5514-15		0.02		0.7	2.67	2.69	Trace	88.6	NF	
6	5515-16		0.04		0.1	2.68	2.68	Trace	84.5	NF	
7	5516-17		1.16		0.1	2.66	2.66	14.3	78.6	VF	
8	5517-18		1.40		0.1	2.63	2.63	0	86.9	VF	
9	5518-19		0.07		0.3	2.69	2.69	0	96.7	NF	SP
10	5519-20		0.04		0.4	2.68	2.69	0	60.0	NF	
11	5520-20.5		0.02		0.6	2.67	2.69	0	28.3	VF	SP
	5521.5-22.5	No sample taken - shale									
12	5522.5-24		0.01-		1.9	2.63	2.68	0	47.4	NF	
	5524-25	No sample taken - shale									
13	5525-26		0.01		1.7	2.60	2.64	Trace	10.6	NF	
14	5526-27		0.01-		1.3	2.63	2.66	50.0	30.0	VF	SP
15	5527-28		0.01		0.2	2.64	2.65	Trace	74.3	NF	
16	5528-29		0.02		0.2	2.66	2.67	0	85.9	NF	
17	5529-30		0.01-		0.7	2.66	2.67	0	81.2	VF	SP
18	5530-31		0.01-		1.8	2.62	2.67	10.6	15.0	NF	
19	5531-32		0.01-		2.0	2.62	2.68	5.0	23.0	VF	SP
	Core # 2	5535-5560	Rec. 25'								
20	5535-36		0.01-		0.1	2.64	2.69	Trace	80.5	H&VF	SP
21	5536-37		0.13		0.2	2.63	2.63	0	40.0	NF	
22	5537-38		0.14		0.1	2.64	2.64	0	90.0	NF	

CL-20 (2ND) 5-57

Sample No.	Representative of Feet	Footage	Permeability Radial	Permeability Vertical	Effective Porosity %	Grain Density Bulk	Grain Density Matrix	Saturation of Pore Space Residual Oil	Saturation of Pore Space Water	Description
23	5538-39		0.12		0.1	2.65	2.65	0	83.5	NF
24	5539-40		0.01		0.3	2.68	2.69	0	33.3	NF
25	5540-41		0.01-		0.1	2.67	2.67	0	59.7	NF
26	5541-42		0.01-		0.1	2.66	2.66	0	90.0	NF
27	5542-43		0.01-		0.1	2.64	2.64	0	80.7	NF
28	5543-44		0.03		0.2	2.65	2.65	0	50.0	NF
29	5544-45		0.01		0.1	2.63	2.63	0	89.7	NF
30	5545-46		0.01		0.1	2.66	2.66	0	90.4	VF
31	5546-47		0.01-		0.1	2.64	2.64	0	85.3	NF
32	5547-48		0.60		0.1	2.62	2.62	Trace	91.3	HF
33	5548-49		2.88		0.2	2.64	2.64	18.3	66.7	HF
34	5549-50		3.92		0.1	2.64	2.64	Trace	87.3	VF
35	5550-51		0.99		0.2	2.66	2.66	12.9	85.7	VF&HF
36	5551-52		0.01-		0.1	2.65	2.65	0	83.3	NF
37	5552-53		0.01-		0.1	2.63	2.63	14.3	77.1	NF
38	5553-54		0.01-		0.1	2.66	2.66	11.1	78.9	NF
39	5554-55		0.01		0.1	2.65	2.65	33.3	60.0	VF
40	5555-56		0.01		0.2	2.64	2.64	0	45.0	NF
41	5556-57		0.04		0.2	2.63	2.64	0	90.0	NF
42	5557-58		0.01-		0.1	2.62	2.62	0	86.7	NF
43	5558-59		0.01-		0.1	2.59	2.59	0	82.9	NF
44	5559-60		0.01		0.1	2.61	2.61	0	89.7	NF

Legend

VF - Vertical fracture
NF - No fracture
HF - Horizontal fracture
SP - Small plug

Phillips Petroleum Company
Phillips-Aztec No. 2 Desert
North Desert Creek
San Juan, Utah

Distribution for Final Report:

5 copies - Phillips Petroleum Company
% Mr. W. M. Freeman
1211 Main Avenue
Durango, Colorado

1 copy - Phillips Petroleum Company
% Frank Earl
1200 Denver Club Building
Denver, Colorado

5 copies - Phillips Petroleum Company
% W. M. Schul
1200 Denver Club Building
Denver, Colorado

1 copy - Phillips Petroleum Company
c/o Earl Griffin
Bartlesville, Oklahoma

1 copy - Phillips Petroleum Company
% C. E. Turner
Bartlesville, Oklahoma

1 copy - Phillips Petroleum Company
c/o J. A. Byrd
655 W. Broadway
Farmington, New Mexico

2 copies - Phillips Petroleum Company
% R. O. Dunbar
514 Bank Building
Bartlesville, Oklahoma

2 copies - Joe Salmon
Aztec-Oil and Gas
P. O. Box 786
Farmington, New Mexico

Invoice - Mr. J. A. Byrd
655 West Broadway
Farmington, New Mexico

CORE GRAPH

PHILLIPS PETROLEUM COMPANY

PHILLIPS-AZTEC NO. 2 DESERT

SE SW NE 18-41S-24E

HERMOSA

NORTH DESERT CREEK, UTAH

EXPLANATION OF SYMBOLS

O — OIL

G — GAS

W — WATER

NP — NO PRODUCTION

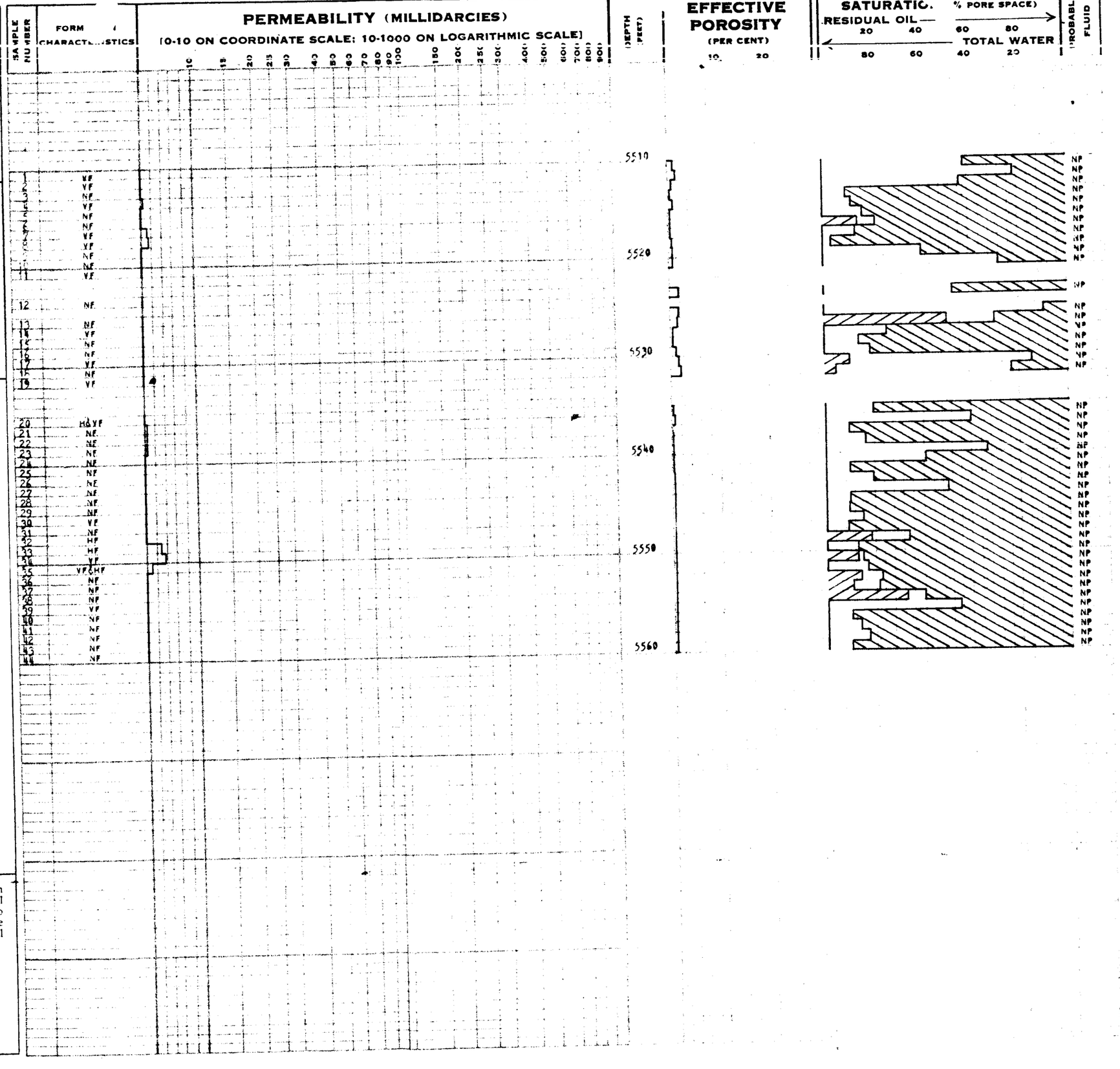
anhy — Anhydrite
calc — Calcareous
cgl — Conglomerate
dol — Dolomite
ls — Limestone
sdy — Sandy
sh — Shale
ss — Sandstone
shy — Shaly
F — Fracture
C — Crack

V — Vertical
H — Horizontal
O — Open
N — No
M — Multiple
S — Slight
St — Stain
Tr — Trace
Vu — Vugs
IS — Insufficient Sample

The interpretation herein is based upon information obtained from analyses of cores and/or material supplied by customer, and Chemical & Geological Laboratories assumes no responsibility nor makes no guarantee, as to the type of production this well may yield. The opinion herein represents the best judgment of Chemical & Geological Laboratories.

CHEMICAL & GEOLOGICAL LABORATORIES

CASPER. GLENDIVE. EDMONTON. CALGARY REGINA



CL-20 (REV. 10-50)
PRAIRIE PUBLISHING CO.—61938

CHEMICAL & GEOLOGICAL LABORATORIES

Casper Glendive Farmington Sterling

FULL DIAMETER CORESTUDY

Operator Phillips Petroleum **Field** Desert Creek **Formation** Hermosa

Well No. Phillips-Aztec # 2 Desert A **Location** se sw ne 18-41s-24e **Depths** 5510-5535

Elevation 4833 DF **Date** October 8,1957 **Lab. No.** F-1051

Sample No.	Representative of Feet	Footage	Permeability Radial	Permeability Vertical	Effective Porosity %	Density Bulk	Density Matrix	Saturation % of Pore Space Residual Oil	Saturation % of Pore Space Water	Description	
	Core # 1	5510-5535	Rec.22'								
1	5510-11		0.02		0.9	2.68	2.70	0	42.2	VF	SP
2	5511-12		0.05		1.2	2.66	2.70	0	21.7	VF	SP
3	5512-13		0.01		0.6	2.65	2.67	Trace	43.3	NF	
4	5513-14		0.13		0.1	2.66	2.66	0	90.0	VF	
5	5515-15		0.02		0.7	2.67	2.69	Trace	86.6	NF	
6	5515-16		0.04		0.1	2.68	2.68	Trace	84.5	NF	
7	5516-17		1.16		0.1	2.66	2.66	14.3	78.6	VF	
8	5517-18		1.40		0.1	2.63	2.63	0	80.9	VF	
9	5518-19		0.07		0.3	2.69	2.69	0	96.7	NF	SP
10	5519-20		0.04		0.4	2.68	2.69	0	60.0	NF	
11	5520-21.5		0.02		0.6	2.67	2.69	0	28.3	VF	SP
	5521.5-22.5	No sample taken - shale									
12	5522.5-24		0.01-		1.9	2.63	2.68	0	47.4	NF	
	5524-25	No sample taken - shale									
13	5525-26		0.01		1.7	2.60	2.64	Trace	10.6	NF	
14	5526-27		0.01-		1.3	2.63	2.66	50.0	30.0	VF	SP
15	5527-28		0.01		0.2	2.64	2.65	Trace	74.3	NF	
16	5528-29		0.02		0.2	2.66	2.67	0	85.9	NF	
17	5529-30		0.01-		0.7	2.66	2.67	0	81.2	VF	SP
18	5530-31		0.01-		1.8	2.62	2.67	10.0	15.0	NF	
19	5531-32		0.01-		2.0	2.62	2.68	5.0	23.0	VF	SP

Legend

VF - Vertical fracture
NF - No fracture
SP - Small plug

CLI-20 (REV. 10-50)
PRAIRIE PUBLISHING CO.—61938

CHEMICAL & GEOLOGICAL LABORATORIES

Casper Glendive Farmington Sterling

FULL DIAMETER CORESTUDY

Operator Phillips Petroleum Co. **Field** North Desert Creek **Formation** Hermosa

Well No. Phillips-Aztec #2 Desert A **Location** se sw ne 18-41s-24e **Depths** 5535-5560

Elevation 4833 DF **Date** October 10,1957 **Lab. No.** P-1051

Sample No.	Representative of Feet	Footage	Permeability Radial	Permeability Vertical	Effective Porosity %	Density Bulk	Density Matrix	Saturation % of Pore Space Residual Oil	Saturation % of Pore Space Water	Description
	Core # 2	5535-5560	Rec.25'							
20	5535-36		0.01-		0.1	2.64	2.69	Trace	80.5	HF&VF SP
21	5536-37		0.13		0.2	2.63	2.63	0	40.0	HF
22	5537-38		0.14		0.1	2.64	2.64	0	90.0	HF
23	5538-39		0.12		0.1	2.65	2.65	0	83.5	HF
24	5539-40		0.01		0.3	2.68	2.69	0	33.3	HF
25	5540-41		0.01-		0.1	2.67	2.67	0	59.7	HF
26	5541-42		0.01-		0.1	2.66	2.66	0	90.0	HF
27	5542-43		0.01-		0.1	2.64	2.64	0	80.7	HF
28	5543-44		0.03		0.2	2.65	2.65	0	50.0	HF
29	5544-45		0.01		0.1	2.63	2.63	0	89.7	HF
30	5545-46		0.01		0.1	2.66	2.66	0	90.4	VF
31	5546-47		0.01-		0.1	2.64	2.64	0	85.3	HF
32	5547-48		0.60		0.1	2.62	2.62	Trace	91.3	HF
33	5548-49		2.88		0.2	2.64	2.64	18.3	66.7	HF
34	5549-50		3.92		0.1	2.64	2.64	Trace	87.3	VF
35	5550-51		0.99		0.2	2.66	2.66	12.9	85.7	VF&HF
36	5551-52		0.01-		0.1	2.65	2.65	0	83.3	HF
37	5552-53		0.01-		0.1	2.63	2.63	14.3	77.1	HF
38	5553-54		0.01-		0.1	2.66	2.66	11.1	78.9	HF
39	5554-55		0.01		0.1	2.65	2.65	33.3	60.0	VF
40	5555-56		0.01		0.2	2.64	2.64	0	45.0	HF
41	5556-57		0.04		0.2	2.63	2.64	0	90.0	HF
42	5557-58		0.01-		0.1	2.62	2.62	0	86.7	HF
43	5558-59		0.01-		0.1	2.59	2.59	0	82.9	HF
44	5559-60		0.01		0.1	2.61	2.61	0	89.7	HF

Legend
VF - Vertical fracture
HF - No fracture
HF - Horizontal fracture
SP - Small plug

PHILLIPS PETROLEUM COMPANY

1200 Denver Club Building
Denver 2, Colorado

November 5, 1957

Mr. Leon B. Feight
Secretary
Utah Oil & Gas Conservation Commission
State Capitol Building
Salt Lake City, Utah

Dear Mr. Feight:

Attached you will find a copy of Core Analysis on Phillips Petroleum Company-Aztec Oil & Gas Company Desert "A" #2, San Juan County, Utah.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

W. M. Schul
Division Superintendent

WMS:L

Attach.

NOV 6 1957

November 7, 1957

W. M. Schul, Division Superintendent
Phillips Petroleum Company
1200 Denver Club Building
Denver 2, Colorado

Dear Mr Schul:

This is to acknowledge receipt of the copy of the Core Analysis on Well No. Desert A-2, Section 18, Township 41 South, Range 24 East, San Juan County, Utah.

Thank you.

Very truly yours,

OIL & GAS CONSERVATION COMMISSION

CLEON B FEIGHT
SECRETARY

CBF:cn

6

Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

Form 9-331

U. S. LAND OFFICE Navajo-Tribal
SERIAL NUMBER 14-20-603-353
LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company Phillips Petroleum Company-Aztec Oil & Gas Co. Address 1200 Denver Club Bldg. Denver 2, Colorado

Lessor or Tract Desert "A" Field Ratherford State Utah

Well No. 2 Sec. 18 T. 41S R. 24E Meridian SLM County San Juan

Location 2140 ft. {N. / S.} of N Line and 1830 ft. {E. / W.} of E Line of Sec. 18 Elevation 4833
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed

Date November 14, 1957 Title Division Superintendent

The summary on this page is for the condition of the well at above date.

Commenced drilling September 12, 19 57 Finished drilling October 16, 19 57

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5611 to 5778 No. 4, from to

No. 2, from to No. 5, from to

No. 3, from to No. 6, from to

IMPORTANT WATER SANDS

No. 1, from to No. 3, from to

No. 2, from to No. 4, from to

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
8-5/8"	24#	8 rd	J-55	1588'	Hall.				
5-1/2"	14#	8 rd	J-55	5781'	Hall.				

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	1590'	339	Halliburton.		
5-1/2"	5813'	285	Halliburton.		

PLUGS AND ADAPTERS

Heaving plug—Material Length Depth set

Adapters—Material Size

FOLD | MARK

8-5/8"	1590'		339	Halliburton.	
5-1/2"	5813'		285	Halliburton.	

FOLD | MARK

PLUGS AND ADAPTERS

Heaving plug—Material ..... Length ..... Depth set .....

Adapters—Material ..... Size .....

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from 0 feet to 5814 feet, and from ..... feet to ..... feet

Cable tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet

DATES

November 14, 19 57 Put to producing October 16, 19 57

The production for the first 12 hours was 447 barrels of fluid of which 100 % was oil; ..... % emulsion; ..... % water; and ..... % sediment. Gravity, °Bé. 41

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. SITP 675#

EMPLOYEES

Moran Bros., Inc., Driller ....., Driller

....., Driller ....., Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	710	710	Sand and shale.
710	1100	390	Navajo.
1100	1150	50	Kayenta.
1150	1590	440	Wingate.
1590	2400	810	Chinle.
2400	2470	70	Shinarump.
2470	2630	160	Moenkopi.
2630	2760	130	Cutler.
2760	2860	100	De Chelly.
2860	4100	1240	Organ Rock.
4100	4585	485	Rico.
4585	5592	1007	Hermosa.
5592	5608	16	Paradox shale.
5608	5814	206	Abajo.

[OVER]

13—43094-4

FORMATION RECORD—Continued

16—43094-2 U. S. GOVERNMENT PRINTING OFFICE

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

Spudded 9-12-57. Set 20' of 15" culvert for conductor pipe and cemented with 25 sacks. Drilled to 1591', ran 8-5/8" 24# J-55 ST&C casing set 1590' RKB. Cemented with 237 sacks Ideal regular, 89 sacks Diacel "D" plus 4 sacks with calcium chloride, 9 sacks Tuf-Plug and 60# Flocele, 250 sacks neat regular cement on bottom around shoe. Pumped plug to 1556' at 6:00 p.m. 9-17-57, 50 sacks returned. WOC 24 hours, Drilled plug and tested casing with 500# for 30 minutes, held OK. Drilled to 5814'. Ran 139 joints of 5½" OD 14# J-55 ST&C casing set at 5813' RKB. Cemented with 168 sacks regular cement, 117 sacks Diacel "D" and 573# calcium chloride. Pumped plug to 5781', job completed at 10:00 p.m. 10-7-57. WOC 24 hours, tested casing with 500# for 15 minutes, held OK. Perforated 5772-66, 5761-56, 5748-28, 5712-04, 5630-18. Ran Baker Model D-4½ production packer set at 5600' and ran 2½" tubing with bottom of tail pipe set at 5683'. Acidized Paradox with 500 gallons mud acid and 4500 gallons 15% acid by Dowell, broke down formation with 10 barrels oil from 4800# to 4400#, started pumping acid and Baker packer stinger seals put out, when 500 gallons mud acid and 1300 gallons 15% acid in tubing. Let set overnight then introduced balance of acid at 7 BPM 800# pressure. Flushed tubing with 50 bbls oil and annulus with 30 bbls oil. Swabbed 3 trips, well kicked off and started to flow. Released rig at noon on 10-16-57. Took 12-hour flowing test. Flowed 447 barrels oil, no water in 12 hours thru 3/4" choke First 4 hours and 1/4" choke next 8 hours. FTP 475#, SITP 675#. Shut in for tank room.

LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Form 9-330

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR
Phillips Petroleum Company

3. ADDRESS OF OPERATOR
Drawer 1150, Cortez, Colorado 81321

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
2140' FNL; 1830' FEL, Sec. 18 SW/4 NE/4

5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME
SW-I-4192

8. FARM OR LEASE NAME
Rutherford Unit

9. WELL NO.
18-32

10. FIELD AND POOL, OR WILDCAT
Greater Aneth Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
18-41S-24E S.L.M.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
4833 D.F.

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Squeeze cement and acidize			[X]
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

On April 30, 1968 set Model K cement retainer at 5720', squeezed Desert Creek Zone II perforations 5728-48, 5756-61 and 5766-72' with 200 sx. Class G cement with .6% HALAD-9, Set packer at 5596', acidized Zone I perforations 5618-30 and 5704-12' with 4000 gallons 15% acid in two stages of equal proportions separated by 500 gallons crude oil with 1000# mothball block. Swabbed well, pulled tubing and packer, reran tubing and pumping equipment, started well pumping 4-4-68.

Previous Production: (Greater Aneth Field, Paradox Formation, Desert Creek Zones I and II) - Shut down since 8/5/66

Note: Last test before shut down from Zones I and II was 2 BO, 6 MCF Gas, and 465 BW in 24 hours on 7-16-66. Packer tests of Zone I only on 8-10-67 yielded 3 BO, 9 MCF Gas, 0 BW in 24 hrs pumping).

Present Production (Greater Aneth - Paradox Formation, Desert Creek Zone I)

41 BOPD, 30 MCFGPD, 0 B WPD

18. I hereby certify that the foregoing is true and correct

SIGNED C. M. Boles TITLE District Superintendent DATE

(This space for Federal or State office use)

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

Distribution:
Orig. & 2 cc: USGS, Farmington, N.M.
2 cc: Utah O&GCC, SLC, Utah
1 cc: NM B'ville
1 cc: Superior, Cortez Denver
1 cc: File

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Phillips Petroleum Company

3. ADDRESS OF OPERATOR: Drawer 1150, Cortez, Colorado 81321

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface

2140' FNL; 1630' FEL, Sec. 18, SW/4 NE/4
(Formerly Phillips Petroleum Co. Desert "A" Well # 2)

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo

7. UNIT AGREEMENT NAME: SW-I-4192

8. FARM OR LEASE NAME: Ratherford Unit

9. WELL NO.: 18-32

10. FIELD AND POOL, OR WILDCAT: Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 18-41S-24E S.L.M.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 4833 D.F.

12. COUNTY: San Juan

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other) Squeeze cement and acidize			[X]				

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Set retainer above Zone II perforations, squeeze cement all Zone II perforations 5728-72' O.A. Acidize all Zone I perforations 5618-5712' O.A. (2 sections) with 4000 G.I. 15% acid and return to production.

Previous Production: 3 BOPD, 9 MCFPD, 0 BWPD from Zone I only with Zone II isolated by packer.

18. I hereby certify that the foregoing is true and correct

SIGNED C. M. Boles TITLE District Superintendent DATE 3-20-68

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Distribution:
Orig. & 2 cc: USGS, Farmington, N.M.
2 cc: Utah O&GCC, SLC, Utah
1 cc: B'ville
1 cc: Denver
1 cc: File

*See Instructions on Reverse Side

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

5. LEASE DESIGNATION AND SERIAL NO.: 96-004192 ✓

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [XX] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME: Ratherford Unit ✓

2. NAME OF OPERATOR: Phillips Oil Company

8. FARM OR LEASE NAME:

3. ADDRESS OF OPERATOR: P. O. Box 2920, Casper, WY 82602

9. WELL NO.:

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: See Attached

10. FIELD AND POOL, OR WILDCAT: N/A

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: See Attached

14. PERMIT NO.: See Attached

15. ELEVATIONS (Show whether DF, RT, GR, etc.):

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

To show change of Operator only. Phillips Oil Company assumed operations effective December 1, 1983 from Phillips Petroleum Company. See attached for list of wells.

RECEIVED
DEC - 8 1983

Org. & 3-BLM
1-The Navajo Nation
1-Mary Wiley Black
1-Lawrence E. Brock
1-Cheveron USA
1-Ralph Faxel
1-Royal Hogan
1-W. O. Keller
1-Dee Kelly Corp.
1-Robert Klabzuba
1-Micheal J. Moncrief
1-Richard B. Moncrief
1-Lee W. Moncrief
1-Mary H. Morgan
1-W. A. Moncrief
1-W. A. Moncrief, Jr.
1-L. F. Peterson
1-Shell Oil Co.
1-Southland Royalty Co.
1-Superior Oil Co.
1-Leroy Shave
1-Texaco, Inc.
1-Wade Wiley, Jr.
1-Edwin W. Word, Jr.
1-File

18. I hereby certify that the foregoing is true and correct

SIGNED A. E. Stuart TITLE Area Manager DATE 12/6/83

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

WELL NO.	WELL LOCATION	API NO.	STATUS
E14-12	SW NW Sec.14-T41S-R24E	43-037-15998	Act.
E14-13	NW SW Sec.14-T41S-R24E	43-037-15999	SI
10-44	SE SE Sec.10-T41S-R24E	43-037-30451	Act.
15-12	SW NW Sec.15-T41S-R24E	43-037-15715	Act.
15-14	SW SW Sec.15-T41S-R24E	43-037-15716	SI
15-22	SE NW Sec.15-T41S-R24E	43-037-30449	Act.
15-32	SW NE Sec.15-T41S-R24E	43-037-15717	Act.
15-33	NW SE Sec.15-T41S-R24E	43-037-15718	SI
15-41	NE NE Sec.15-T41S-R24E	43-037-15719	Act.
15-42	SE NE Sec.15-T41S-R24E	43-037-3-448	SI
16-12	SW NW Sec.16-T41S-R24E	43-037-15720	Act.
16-14	SW SW Sec.16-T41S-R24E	43-037-15721	Act.
16-32	SW NE Sec.16-T41S-R24E	43-037-15723	Act.
16-34	SW SE Sec.16-T41S-R24E	43-037-15724	SI
16-41	NE NE Sec.16-T41S-R24E	43-037-15725	Act.
17-12	SW NW Sec.17-T41S-R24E	43-037-15726	Act.
17-14	SW SW Sec.17-T41S-R24E	43-037-15727	Act.
17-23	NE SW Sec.17-T41S-R24E	43-037-15728	Act.
17-32	SW NE Sec.17-T41S-R24E	43-037-15729	Act.
17-34	SW SE Sec.17-T41S-R24E	43-037-15730	Act.
17-41	NE NE Sec.17-T41S-R24E	43-037-15731	Act.
17-44	SE SE Sec.17-T41S-R24E	43-037-15732	Act.
18-11	NW NW Sec.18-T41S-R24E	43-037-15733	SI
18-13	NW SW Sec.18-T41S-R24E	43-037-15734	Act.
18-14	SW SW Sec.18-T41S-R24E	43-037-15735	Act.
18-23	NE SW Sec.18-T41S-R24E	43-037-30244	Act.
18-32	SW NE Sec.18-T41S-R24E	43-037-15736	Act.
18-34	SW SE Sec.18-T41S-R24E	43-037-15737	Act.
19-12	SW NW Sec.19-T41S-R24E	43-037-15739	Act.
19-14	SW SW Sec.19-T41S-R24E	43-037-15740	SI
19-32	SW NE Sec.19-T41S-R24E	43-037-15743	Act.
19-34	SW SE Sec.19-T41S-R24E	43-037-15744	Act.
20-12	SW NW Sec.20-T41S-R24E	43-037-15746	Act.
20-14	SW SW Sec.20-T41S-R24E	43-037-15747	Act.
20-32	SW NE Sec.20-T41S-R24E	43-037-15749	Act.
20-34	SW SE Sec.20-T41S-R24E	43-037-15750	Act.
21-12	SW NW Sec.21-T41S-R24E	43-037-15752	Act.
21-14	SW SW Sec.21-T41S-R24E	43-037-15753	Act.
21-23	NE SW Sec.21-T41S-R24E	43-037-13754	Act.
21-32	SW NE Sec.21-T41S-R24E	43-037-15755	Act.
21-33	NW SE Sec.21-T41S-R24E	43-037-30447	SI
21-34	SW SE Sec.21-T41S-R24E	43-037-15756	Act.
22-12	SW NW Sec.22-T41S-R24E	43-037-15757	SI
22-14	SW SW Sec.22-T41S-R24E	43-037-15758	SI
24-42	SE NE Sec.24-T41S-R24E	43-037-15863	Act.
28-11	NW NW Sec.28-T41S-R24E	43-037-30446	Act.
28-12	SW NW Sec.28-T41S-R24E	43-037-15336	Act.
29-12	SW NW Sec.29-T41S-R24E	43-037-15337	Act.
29-32	SW NE Sec.29-T41S-R24E	43-037-15339	Act.

UTAH NATURAL RESOURCES
Oil, Gas & Mining
3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

CC: GLH
FYI.

PRODUCING ENTITY ACTION

Operator Name: Phillips Petroleum Company
Address: Box 2920
City: Casper, State: WY Zip: 82604
Utah Account No.: N0772

Authorized Signature: Meredith K. Widdison
Effective Date: October, 1986 Telephone: (307) 237-3791

ACTION CODE

- A Establish new entity for new well(s).
- B Add new well(s) to existing entity.
- C Delete well(s) from existing entity.
- D Establish new entity for well(s) being deleted from existing entity.
- E Change well(s) from one entity to another existing entity.
- F Other. (Specify using attachments if necessary.)

BRACKET WELLS TO BE GROUPED TOGETHER.

(Use black ink or typewriter ribbon.)

Action Code	Current Entity No.	New Entity No.	API No.	Well Name	Well Location Sec.	T	R	Q/Q	County	Producing Formation
C	06280		4303715989	Ratherford Unit Well #7-34	7	41S	24E	SWSE	San Juan	DSCR

Explanation of action:
Converted to a water injection well 10/6/86

C	06280		4303715857	Ratherford Unit Well #13-42	13	41S	23E	SENE	San Juan	DSCR

Explanation of action:
Converted to a water injection well 10/24/86

C	06280		4303715731	Ratherford Unit Well #17-41	17	41S	24E	NENE	San Juan	PRDX

Explanation of action:
Converted to a water injection well 10/23/86

C	06280		4303715736	Ratherford Unit Well #18-32	18	41S	24E	SWNE	San Juan	PRDX

Explanation of action:
Converted to a water injection well 10/10/86

Mobil Oil Corporation

P.O. BOX 5444
DENVER, COLORADO 80217-5444

May 14, 1986

Utah Board of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: R. J. Firth
Associate Director

SUPERIOR OIL COMPANY MERGER

Dear Mr. Firth:
On September 20, 1984, The Superior Oil Company (Superior) became a wholly owned subsidiary of Mobil Corporation. Since January 1, 1985, Mobil Oil Corporation (MOC), another wholly owned subsidiary of Mobil Corporation, has acted as agent for Superior and has operated the Superior-owned properties.

On April 24, 1986, Superior was merged with Mobil Exploration and Producing North America Inc. (MEPNA), which is also a wholly owned subsidiary of Mobil Corporation. MEPNA is the surviving company of the merger.

This letter is to advise you that all properties held in the name of Superior will now be held in the name of MEPNA; and that these properties will continue to be operated by MOC as agent for MEPNA.

Attached is a listing of all wells and a separate listing of injection-disposal wells, Designation of Agent and an organization chart illustrating the relationships of the various companies. If you have any questions or require additional documentation of this merger, please feel free to contact me at the above address or (303) 298-2577.

Very truly yours,

R. D. Baker
Environmental Regulatory Manager

CNE/rd
CNE8661

(Formerly 9-331) DEPARTMENT OF THE INTERIOR (verse side)
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-343
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo 080626
7. UNIT AGREEMENT NAME: SW-I-4192
8. FARM OR LEASE NAME: Ratherford Unit
9. WELL NO.: 18-32
10. FIELD AND POOL, OR WILDCAT: Greater Aneth
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 18-T41S-R24E
12. COUNTY OR PARISH: San Juan
13. STATE: Utah

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Phillips Petroleum Company

3. ADDRESS OF OPERATOR: P.O. Box 2920, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2140' FNL, 1830' FEL (SW NE)

14. PERMIT NO.: 43-037-15736

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 4835' RKB

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[X]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANE	[ ]	(Other)			[ ]
(Other) Convert to Water Injection			[X]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is proposed to convert Ratherford Unit #18-32 from a Zone I producing well to a Zone I water injection well. Upon conversion, the well will be acidized with approximately 3000 gallons of 28% HCl Acid, and placed on injection.

A 10' x 8' x 6' fenced pit will be constructed on location in a previously disturbed area. Upon completion of the workover, the pit will be dried and recovered.

5-BLM, Farmington, NM
2-Utah O&G CC, Salt Lake City, UT
1-P. J. Adamson
1-M. Willams, 302 TRW
1-J. R. Weichbrodt
1-B. J. Murphy
1-File RC

RECEIVED
MAY 21 1986
DIVISION OF OIL, GAS & MINING

DIVISION OF OIL, GAS, AND MINING
DATE: 7/30/86
BY:

Federal approval of this action is required before commencing operations

18. I hereby certify that the foregoing is true and correct

SIGNED D. C. Gill TITLE Area Manager DATE May 14, 1986

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

PHILLIPS PETROLEUM COMPANY
CASPER, WYOMING 82602
BOX 2920
EXPLORATION AND PRODUCTION GROUP

June 9, 1986

State of Utah
Division of Oil, Gas, and Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: Gil Hunt

RE: Ratherford Unit
San Juan County
Class II Injection Well
Conversions

Dear Mr. Hunt:

Enclosed are applications of conversions for twelve more injection wells in the Ratherford Unit. The well numbers are:

11-W44	13-W24	17-W34
12-W22	13-W42	18-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

We appreciate the effort put forth in revising and streamlining the UIC program for enhanced recovery wells, the elimination of duplication makes permitting much easier.

The additional information required should not be a burden on the regulated industry. We have listed, on each well bore schematic, the logs on file for that well. We have also enclosed a copy of our letters to mineral lease operators and landowners in the area informing them of these proposed well conversions. The enclosed Attachment 6 is a supplement to the original informational package on the conversion program sent in February 1986. Please contact Renee Taylor at (307) 237-3791 with any questions.

Thank you again for your efforts to make this program more workable for all involved.

Sincerely,

PHILLIPS PETROLEUM COMPANY

D. C. Gill
Area Manager

RCT/fb (23)
Attach
cc: B. J. Murphy - Casper w/o attach
J. R. Weichbrodt - Cortez w/attach.
Casper RC

UTAH
NATURAL RESOURCE
OIL, GAS AND MIN

3 Triad Center, Suite 350, Salt Lake City, UT 84180-1203

Ph. (801)538-5340

APPLICATION FOR INJECTION WELL

Operator: Phillips Petroleum Company Telephone: (307)237-3791

Address: P. O. Box 2920

City: Casper State: Wyoming Zip: 82602

Well no.: 18 W32 Field or Unit name: Ratherford Unit

Sec.: 18 Twp.: 41S Rng.: 24E County: San Juan Lease no. 14-20-603 - 343

	YES	NO
Is this application for expansion of an existing project?.....	X	
Will the proposed well be used for: Enhanced recovery?.....	X	
Disposal?.....		
Storage?.....		
Is this application for a new well to be drilled?.....		X
Has a casing test been performed for an existing well?.....		X

(If yes, date of test:)

Injection interval: from 5618 to 5712

Maximum injection: rate 500 BWPD pressure 3000 psig

Injection zone contains X oil, X gas or ____ fresh water within 1/2 mile.

Additional information as required by Rule 502 should accompany this form.

I hereby certify that the foregoing is true and correct to the best of my knowledge:

Signed: DC Gill Title: Area Manager Date: 6-9-86

D.C. Gill

(This space for DOGM approval)

RECEIVED
JUN 12 1986
DIVISION OF
OIL, GAS & MINING

Approved by: Title: Date:

DOGM-UIC-1 (2/86)

LOCATION: SW NE Sec 8-T41S-R24E

FIELD: GREATER ANETH

RESERVOIR: Desert Creek Zone I

W I COMPLETION: proposed

PRESENT STATUS: injector

RKB 4835

GL 4791

SURFACE CASING: 8 5/8" 24# J-55

Well # 18W32

PRODUCTION CASING: 5 1/2" 14# J-55

1590'

PERFORATIONS:

5618-30

5704-12

PACKER: Baker Model AB Tension Type Pkr or Similar Set @

Logs on file:

Gamma Ray

SP

Neutron Porosity

Electrical / Resistivity

Caliper

Microlog

Temperature Survey

PBTD: 5720'

OTD: 5814'

5813'

Phillips Petroleum Company

UIC CHECKLIST FOR APPLICATION APPROVAL

OPERATOR Phillips WELL NUMBER Ratherford 18-32

SEC. 18 T. 41S R. 24E COUNTY San Juan

API # 43-037-15736

NEW WELL _____ DISPOSAL WELL _____ ENHANCED RECOVERY WELL ✓

- Plat showing surface ownership	Yes	Feb. '86*	No	
- Application forms complete	Yes	✓	No	
- Schematic of well bore	Yes	✓	No	
- Adequate geologic information	Yes	Feb. '86	No	
- Rate and Pressure information	Yes	Feb. '86	No	
- Fluid source	Yes	Feb. '86	No	
- Analysis of formation fluid	Yes	Feb. '86	No	
- Analysis of injection fluid	Yes	Feb. '86	No	
- USDW information	Yes	Feb. '86	No	
- Mechanical integrity test	Yes		No	✓

Comments: _____

*Info submitted in Feb. 1986

Reveiwed by Dorothy Swindel

Casing & Cementing Program
Ratherford Unit

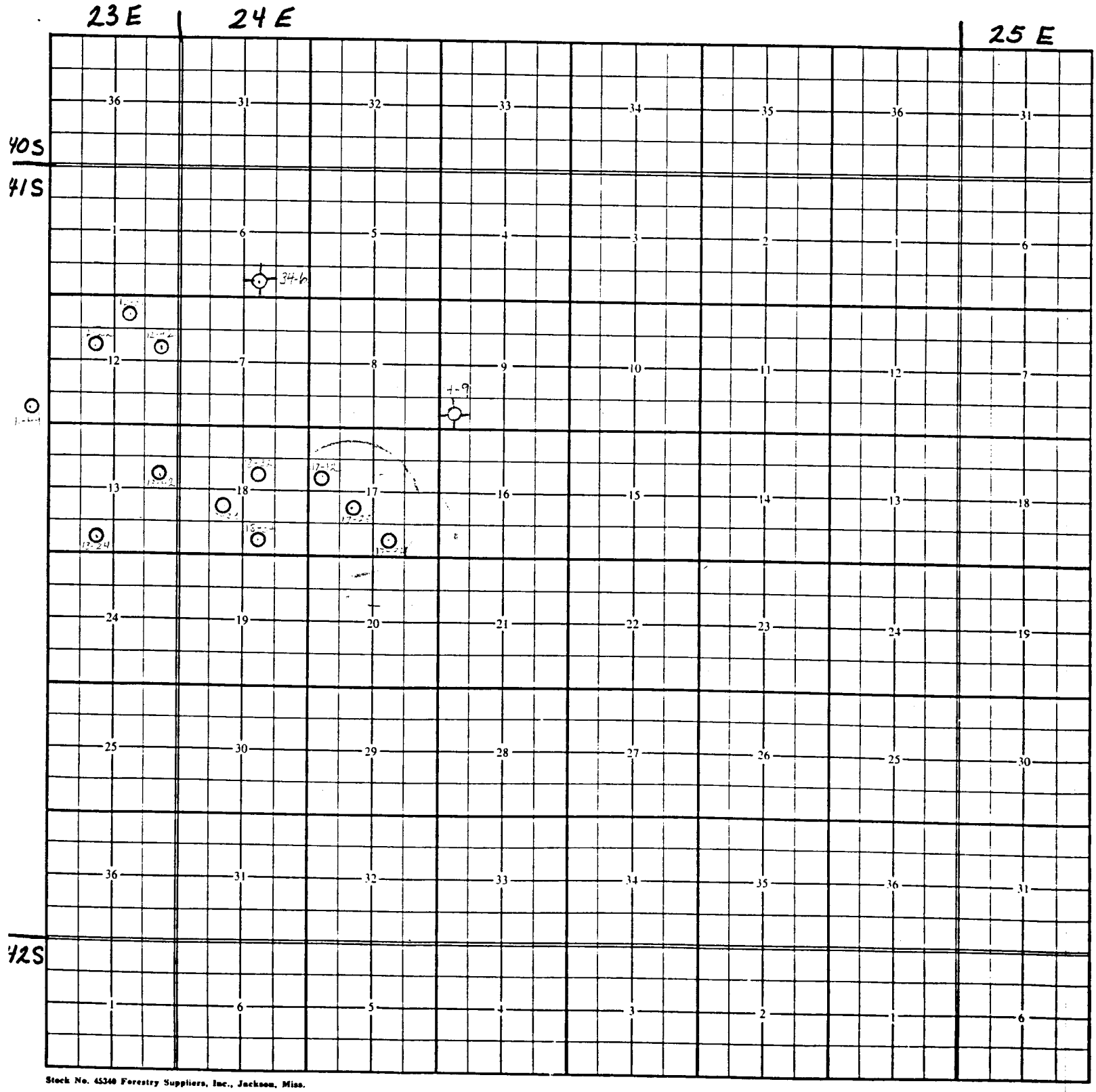
The casing and cementing program at the Ratherford Unit has been designed so that injected fluid or formation water will not be able to enter any fresh water strata. All wells have at least two strings of casing set at approximately 1600' and 5700' (TD). The majority of wells also have a string of casing set at approximately 140'. The following is a summary of the casing and cementing program:

Casing Depth	Range of Casing Sizes	Range of Cement (sx)
140'	20" -13 5/8"	175 - 125
1600'	13 3/8" - 8 5/8"	800 - 200
5700'	8 5/8" - 5 1/2"	900 - 200

TOWNSHIP PLAT

Owner PHILLIPS PETROLEUM Date 6/13/86

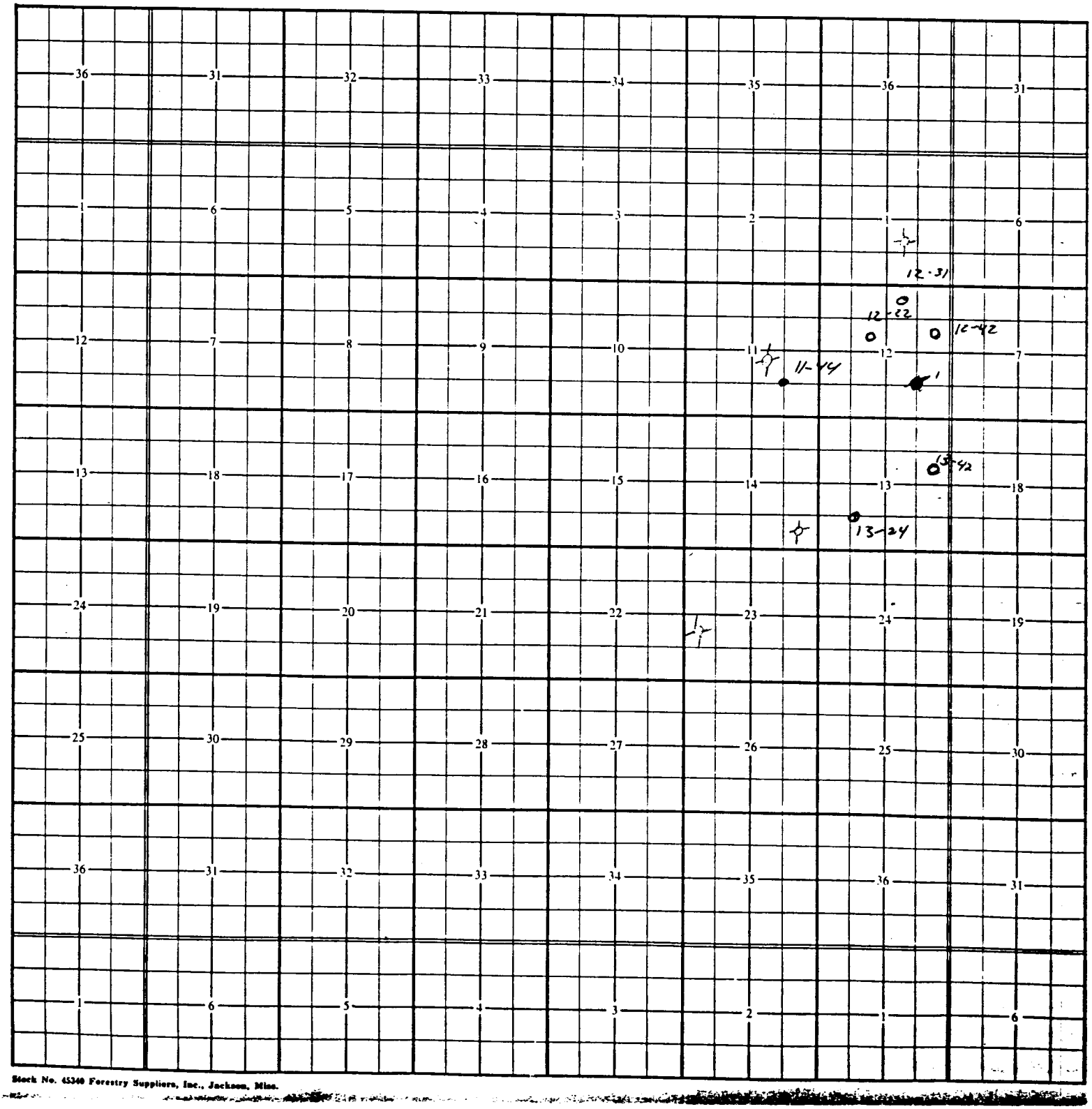
Township 41S Range 24E County SAN JUAN



TOWNSHIP PLAT

Owner Phillips Petroleum Date 6/12/86

Township 41S Range 23E County San Juan



P.O. Box 2920, Casper, Wyoming 82602

June 10, 1986

Mobile Oil Corp.
P.O. Box 5444
Denver, CO 80217
Attn: Joint Interest Advisor

Re: Ratherford Unit
Injection Well Conversions

Dear Sirs,

Phillips Petroleum Company has made application to the State of Utah, Division of Oil, Gas and Mining to convert twelve existing producing wells to water injection wells in the Ratherford Unit secondary recovery project. The revised rule 502(b)(12) requires that you are notified of these plans and are provided with a copy of the application for injection well (Form DOGM-UIC-1). Under Rule 503 you are provided with the opportunity to object to the proposed application.

"Applications for Injection Well" are attached for the following existing wells:

11-W44	13-W24	17-W34
12-W22	13-W42	18-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

Please contact Renee Taylor or Blair Murphy at (307) 237-3791 with any questions.

Sincerely,

D. C. Gill
Area Manager

RCT/lt (17)
cc: B. J. Murphy-Casper
J. R. Weichbrodt-Cortez
Casper-RC
St. of Utah OG&M/UIC

P.O. Box 2920, Casper, Wyoming 82602

June 10, 1986

Navajo Tribe
Minerals Department
P.O. Box 146
Window Rock, AZ 86515

Re: Ratherford Unit
Injection Well Conversions

Dear Sirs,

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12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

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Sincerely,

D. C. Gill
Area Manager

RCT/lt (17)
cc: B. J. Murphy-Casper
J. R. Weichbrodt-Cortez
Casper-RC
St. of Utah OG&M/UIC

P.O. Box 2920, Casper, Wyoming 82602

June 10, 1986

Texaco, Inc.
P.O. Box 3360
Casper, WY 82602
Attn: A. J. Sanford

Re: Ratherford Unit
Injection Well Conversions

Dear Sirs,

Phillips Petroleum Company has made application to the State of Utah, Division of Oil, Gas and Mining to convert twelve existing producing wells to water injection wells in the Ratherford Unit secondary recovery project. The revised rule 502(b)(12) requires that you are notified of these plans and are provided with a copy of the application for injection well (Form DOGM-UIC-1). Under Rule 503 you are provided with the opportunity to object to the proposed application.

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12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

Please contact Renee Taylor or Blair Murphy at (307) 237-3791 with any questions.

Sincerely,

D. C. Gill
Area Manager

RCT/lt (17)
cc: B. J. Murphy-Casper
J. R. Weichbrodt-Cortez
Casper-RC
St. of Utah OG&M/UIC

UTAH
NATURAL RESOUR...
OIL, GAS AND MINING

3 Triad Center, Suite), Salt Lake City, UT 84180-1203

Ph. (801)538-5340

DEC 01 1986

MONTHLY REPORT OF ENHANCED RECOVERY PROJECT - PART 2

MONTHLY MONITORING OF INJECTION WELLS

Well Name	Inj. Press.	Inj. Rate	Annulus Press.	Monthly Inj. Vol.
18W32 Completed 10/10/86	2120	179		3754
18W41 X	2250	16		504
18W43 X	SI	SI		SI
19W21 X	2350	179		5539
19W23 X	SI	SI		SI
19W41 X	2300	69		2145
19W43 X	2250	246		7625
20W21 X	2400	14		426
20W23 X	2550	286		8874
20W41 X	2250	153		4729
20W43 X	2300	244		7577
21W21 X	2400	294		9124
21W41 X	SI	SI		SI
21W43 X	SI	SI		SI
22W21 X	SI	SI		SI
24W21 X	SI	SI		SI
24W43 X	800	295		9142
28W21 X	2350	23		703
29W21 X	2250	363		11,263
29W23 X	SI	SI		SI
29W41 X	1950	384		11,889
29W43 X	SI	SI		SI

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 23, 1986

Newspaper Agency Corporation
Legal Advertising
143 South Main - Mezzanine Floor
Salt Lake City, Utah 84110

Gentlemen:

RE: Cause No. UIC-083

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 2nd day of July, 1986. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

Marlayne Poulsen
for Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 23, 1986

San Juan Record
Legal Advertising
Box 879
Monticello, Utah 84535

Gentlemen:

RE: Cause No. UIC-083

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Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

Marlayne Lowsen
for
Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure

UIC-083

Publication was sent to the following:

Utah State Department of Health
Water Pollutioncontrol
Attn: Loren Morton
4241 State Office Building
Salt Lake City, Utah 84114

U.S. Environmental Protection Agency
Suite 1300
Attn: Mike Streiby
999 18th Street
Denver, Colorado 80202-2413

Bureau of Land Management
Fluid Minerals Caller Service #4104
Farmington, New Mexico 87499

Phillips Petroleum Company
PO Box 2920
Casper Wyoming 82602

Mobil Oil Corporation
PO Box 5444
Denver, Colorado 80217

Navajo Tribe
Minerals Development
PO Box 146
Window Rock, Arizona 86515

Texaco, Incorporated
PO Box 3360
Casper, Wyoming 82602

Newspaper Agency Corporation
Legal Advertising
143 South Main - Mezzanine Floor
Salt LakeCity, Utah 84110

San Juan Record
Legal Advertising
Box 879
Monticello, Utah 84535

Marlayne Poulsen
June 23, 1986

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

July 18, 1986

072104

Phillips Petroleum Company
P.O. Box 2920
Casper, Wyoming 82602

Gentlemen:

RE: Injection Well Approval - Cause No. UIC-083

Insofar as this Division is concerned, administrative approval is hereby granted to convert the following wells to Class II enhanced recovery injection wells:

RATHERFORD UNIT - San Juan County, Utah

#11-44, Sec. 11, T41S, R23E	#17-12, Sec. 17, T41S, R24E
#12-22, Sec. 12, T41S, R23E	#17-23, Sec. 17, T41S, R24E
#12-31, Sec. 12, T41S, R23E	#17-34, Sec. 17, T41S, R24E
#12-42, Sec. 12, T41S, R23E	#18-23, Sec. 18, T41S, R24E
#13-24, Sec. 13, T41S, R23E	#18-32, Sec. 18, T41S, R24E
#13-42, Sec. 13, T41S, R23E	#18-34, Sec. 18, T41S, R24E

This approval is conditional upon full compliance with the UIC rules and regulations adopted by the Board of Oil, Gas and Mining, and construction and operation of the wells as outlined in the application submitted.

If you have any questions concerning this matter, please do not hesitate to call or write.

Best regards,

Dianne R. Nielson

Dianne R. Nielson
Director

mfp
7627U

Affidavit of Publication

ADM-358

STATE OF UTAH,

ss.

County of Salt Lake

Sharon Payne

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah, and of the DESERET NEWS, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.

That the legal notice of which a copy is attached hereto

Cause No. UIC-083

was published in said newspaper on

July 2, 1986

Sharon Payne

Legal Advertising Clerk

BEFORE THE DIV[illegible] OF OIL, GAS [illegible] NATURAL RESOURCES STATE OF UTAH [illegible]

IN THE MATTER [illegible] THE APPLICATION OF [illegible] PETR[illegible] FOR ADMIN[illegible] APPROVAL TO IN[illegible] FLUID INTO WELL[illegible] CONVERTED TO [illegible] RECOVERY INJE[illegible] LOCATED IN SE[illegible] 12 AND 13 TOWN[illegible] SOUTH, RANGE 23 EAST, AND SECTIONS 17 AND 16, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH.

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box [illegible], Wyoming [illegible] ministrative [illegible] Division [illegible] ing [illegible] co[illegible]

[illegible]

#13-42, Sec. 13, [illegible] R23E
#17-12, Sec. 17, [illegible] R24E
#[illegible], Sec. 17, [illegible] R24E
#17-34, Sec. 17, T41S, R24E
#1[illegible], Sec. 16, T41S, R24E
[illegible]

Injection Interval: Desert Creek [illegible] to 5718'
Maximum Estimated Surface Pressure: 3000 psig
Maximum Estimated Water Injection Rate: 500 BWPD

Approval of this Application will be granted unless objections are filed with the division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
Marjorie L. Anderson
Administrative Assistant

S-62

[illegible]orn to before me this 10th day of July A.D. 19 86

B. T. Davis

Notary Public

My Commission Expires

March 01,1988

NOTARY PUBLIC
B. T. DAVIS
STATE OF UTAH

Affidavit of Publication

ADM-35B

STATE OF UTAH,

ss.

County of Salt Lake

Sharon Payne

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah, and of the DESERET NEWS, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.

That the legal notice of which a copy is attached hereto

Cause No. UIC-083

was published in said newspaper on

July 2, 1986

Legal Advertising Clerk

BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH CAUSE NO. UIC-083

IN THE MATTER OF THE APPLCIATION OF PHILLIPS PETROLEUM COMPANY, FOR ADMINISTRATIVE APPROVAL TO INJECT FLUID INTO WELLS TO BE CONVERTED TO ENHANCED RECOVERY INJECTION WELLS LOCATED IN SECTIONS 11, 12 AND 13, TOWNSHIP 41 SOUTH, RANGE 23 EAST; AND SECTIONS 17, AND 18, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH.

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box 2920, Casper, Wyoming 82602, has requested administrative approval from the Division to convert the following listed wells to enhanced recovery water injection wells:

RATHERFORD UNIT
San Juan County, Utah

#11-44, Sec. 11, T41S, R23E
#12-22, Sec. 12, T41S, R23E
#12-31, Sec. 12, T41S, R23E
#12-42, Sec. 12, T41S, R23E
#13-24, Sec. 13, T41S, R23E
#13-42, Sec. 13, T41S, R23E
#17-12, Sec. 17, T41S, R24E
#17-23, Sec. 17, T41S, R24E
#17-34, Sec. 17, T41S, R24E
#18-23, Sec. 18, T41S, R24E
#18-32, Sec. 18, T41S, R24E
#18-34, Sec. 18, T41S, R24E

Injection Interval: Desert Creek 5317' to 5712'
Maximum Estimated Surface Pressure: 3000 psig
Maximum Estimated Water Injection Rate: 500 BWPD

Approval of this Application will be granted unless objections are filed with the division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June 1986.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
Marjorie L. Anderson
Administrative Assistant

S-62

Sworn to before me this 10th day of July A.D. 19 86

Notary Public

My Commission Expires

March 31,1988

AFFIDAVIT OF PUBLICATION

I, Joyce Martin, being duly sworn, depose and say that I am the publisher of **The San Juan Record**, a weekly newspaper of general circulation published at Monticello, Utah every Wednesday; that notice of Cause No. UIC-083

a copy of which is hereunto attatched, was published in the regular and entire issue of each number of said newspaper for a period of one issues, the first publication having been made on July 2, 1986. and the last publication having been made on .

Joyce A. Martin
Publisher

Subscribed and sworn to before me this 2nd day of July, A.D. 1986.

Ingrid K Adams
Notary Public residing at Monticello, Utah

My commission expires December 2, 1987

Public notice

BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF PHILLIPS PETROLEUM COMPANY, FOR ADMINISTRATIVE APPROVAL TO INJECT FLUID INTO WELLS TO BE CONVERTED TO ENHANCED RECOVERY INJECTION WELLS LOCATED IN SECTIONS 11, 12 AND 13, TOWNSHIP 41 SOUTH, RANGE 23 EAST: AND SECTIONS 17, AND 18, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH

* * *

CAUSE NO. UIC-083

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box 2920, Casper, Wyoming 82602, has requested administrative approval from the Division to convert the following listed wells to enhanced recovery water injection wells:

RATHERFORD UNIT
SAN JUAN COUNTY, UTAH
#11-44, Sec. 11, T41S, R23E
#12-22, Sec. 12, T41S, R23E
#12-31, Sec. 12, T41S, R23E
#12-42, Sec. 12, T41S, R23E
#13-24, Sec. 13, T41S, R23E
#13-42, Sec. 13, T41S, R23E
#17-12, Sec. 17, T41S, R24E
#17-23, Sec. 17, T41S, R24E
#17-34, Sec. 17, T41S, R24E
#18-23, Sec. 18, T41S, R24E
#18-32, Sec. 18, T41S, R24E
#18-34, Sec. 18, T41S, R24E

INJECTION INTERVAL: Desert Creek 5317' to 5712'

MAXIMUM ESTIMATED SURFACE PRESSURE: 3000 psig

MAXIMUM ESTIMATED WATER INJECTION RATE: 500 BWPD

Approval of this Application will be granted unless objections are filed with the Division of Oil, Gas and Mining withing fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH
DIVISION OF OIL,
GAS AND MINING
s/ Marjorie L. Anderson
Administrative Assistant

Published in The San Juan Record July 2, 1986.

BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

---ooOoo---

IN THE MATTER OF THE APPLICATION OF PHILLIPS PETROLEUM COMPANY, FOR ADMINISTRATIVE APPROVAL TO INJECT FLUID INTO WELLS TO BE CONVERTED TO ENHANCED RECOVERY INJECTION WELLS LOCATED IN SECTIONS 11, 12 AND 13, TOWNSHIP 41 SOUTH, RANGE 23 EAST; AND SECTIONS 17, AND 18, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH	:	CAUSE NO. UIC-083

---ooOoo---

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box 2920, Casper, Wyoming 82602, has requested adminstrative approval from the Division to convert the following listed wells to enhanced recovery water injection wells:

RATHERFORD UNIT - San Juan County, Utah

#11-44, Sec. 11, T41S, R23E	#17-12, Sec. 17, T41S, R24E
#12-22, Sec. 12, T41S, R23E	#17-23, Sec. 17, T41S, R24E
#12-31, Sec. 12, T41S, R23E	#17-34, Sec. 17, T41S, R24E
#12-42, Sec. 12, T41S, R23E	#18-23, Sec. 18, T41S, R24E
#13-24, Sec. 13, T41S, R23E	#18-32, Sec. 18, T41S, R24E
#13-42, Sec. 13, T41S, R23E	#18-34, Sec. 18, T41S, R24E

INJECTION INTERVAL: Desert Creek 5317' to 5712'
MAXIMUM ESTIMATED SURFACE PRESSURE: 3000 psig
MAXIMUM ESTIMATED WATER INJECTION RATE: 500 BWPD

Approval of this Application will be granted unless objections are filed with the Division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

Marjorie L. Anderson
MARJORIE L. ANDERSON
Administrative Assistant

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-343

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO

1. OIL WELL ☐ GAS WELL ☐ OTHER Water Injector

7. UNIT AGREEMENT NAME: SW-I-4192

2. NAME OF OPERATOR: Phillips Petroleum Company

8. FARM OR LEASE NAME: Ratherford Unit

3. ADDRESS OF OPERATOR: P.O. Box 2920, Casper, WY 82602

9. WELL NO.: 18W32

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2140' FNL, 1830' FEL SW NE

10. FIELD AND POOL, OR WILDCAT: Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 18-T41S-R24E

API# 43-037-15736

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 4835' RKB

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

RECEIVED
AUG 4 1987
DIVISION OF OIL & MINE

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Convert to water injection			XX
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Sep. 15, 1986 through Oct. 14, 1986

MI WS 9/16/86. Test cmt retainer in hole w/2600 psi, wouldn't hold. COOH to 5573' to test csg above perfs, couldn't get any pressure. Tested annulus up to 685'. Isolate csg leak at 450'. Set RBP at 5593', press to 100 psi, OK. Reset BP at 3140' and pkr at 2855'. Found leak at 2850'. Reset BP at 5593'. Test csg to 1000 psi. Csg good from 3140-5593', small hole at 2850', large hole at 450'. Reset BP at 3670', spot sand on BP. Set pkr at 2359' and 75 jts tbg at 2983'. Pump in 35 sx cmt. Press cmt to 1000 psi and held 2 hrs. GIH w/16 jts tbg to sqz at BH. Pumped in 115 sx cmt. COOH w/tbg. Filled hole w/cmt. Put 500 psi on BH. ND BOP. NU new BOP. Drld cmt at surface w/power swivel to 2975'. Test csg to 1000 psi for 15 min, OK. Repair 5-½" csg. Pull BP. Set cmt retainer at 5717'. Est inj rate 4 BPM at 1080 psi, returns our backside. Pumped in 30 sx cmt. Reverse circ 4' off btm. Have 3 bbls behind pipe. Tag cmt at 5714'. Acidized perfs 5618-5712' w/3000 gals 28% HCL. Swabbed back load. Ran 5-½" pkr and 2-3/8" tbg set at 5518'. HU to injection 10/14/86.

Production Before	7 BOPD 0 BWPD	4-BLM, Farmington, NM	1-Chieftain
Injection After	97 BWPD @ 2250 psi	2-Utah O&G CC, SLC, UT	1-Mobil Oil
		1-M. Williams, B'Ville	1-Texaco, Inc.
		1-J. Landrum, Denver	1-Chevron USA
		1-J. Reno, Cortez	1-File RC

18. I hereby certify that the foregoing is true and correct

SIGNED D. C. Gill TITLE Area Manager DATE 7/27/87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DOWNHOLE SCHEMATIC

Date: 8/6/87

RATHERFORD Unit # 18W32

RKB Elev. 4835'

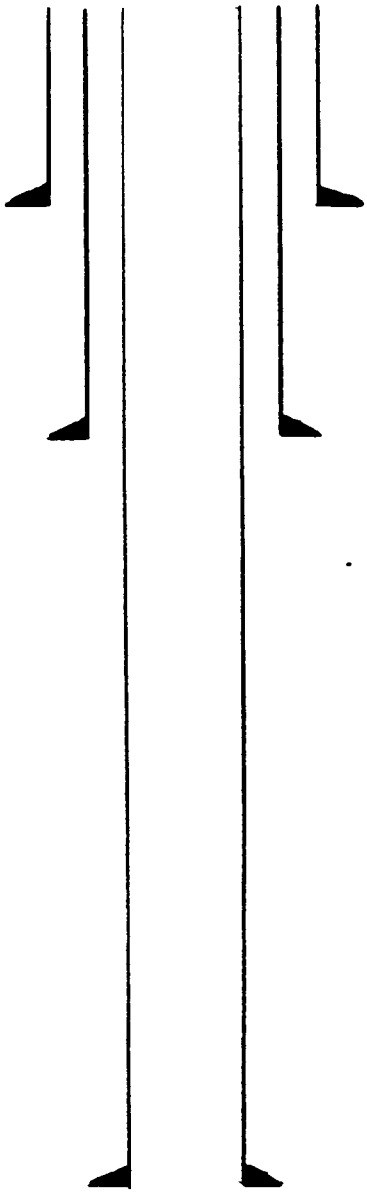
GL Elev. 4823'

RKB Above GL' 12'

LOCATION SW NE Sec. 18
T41S-R24E

Well Drld 10/16/87

Well Converted to injector 10/14/86



CONDUCTOR Csg @ '

SURFACE CSG. 8 5/8 @ 1,590'

TOC 3872' CALC.

Tubing 2 3/8 @ 5568' Duolink HT2

PACKER Otis INTER-lock PKR
@ 5568'

PERFS 5,612 - 18
5,618 - 30
5,704 - 12
- -

PBTD 5,717'

PRODUCTION Csg. 5 1/2 @ 5813'
J-55, 14#

All Perfs Zone I Unless noted

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
SW-I-4192

1. OIL WELL ☐ GAS WELL ☐ OTHER WATER INJECTION & WATER SUPPLY WELLS

7. UNIT AGREEMENT NAME
RATHERFORD UNIT #7960041920

2. NAME OF OPERATOR
PHILLIPS PETROLEUM COMPANY

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR
152 N. DURBIN, 2ND FLOOR, CASPER, WYOMING 82601

9. WELL NO.
VARIOUS (see attached)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SEE ATTACHED

RECEIVED
MAR 20 1989
BUREAU OF LAND MANAGEMENT
MOAB, UTAH

10. FIELD AND POOL, OR WILDCAT
GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sections 1 thru 30
T41S - R23E & 24E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) CHANGE OF OWNERSHIP			XX
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This is to advise all Water Injection and Water Supply Wells on the Ratherford Unit, listed on the attached sheet, were sold to Phillips Petroleum Company, effective August 1, 1985.

(former Operator - Phillips Oil Company)

3 - BLM, Farmington, NM
2 - Utah O&G CC, SLC, UT
1 - File

18. I hereby certify that the foregoing is true and correct

SIGNED S. H. Oden S. H. Oden TITLE District Superintendent DATE March 17, 1989

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER Water Injection	5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353
	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo
	7. UNIT AGREEMENT NAME: SW-I-4192
2. NAME OF OPERATOR: Phillips Petroleum Company	8. FARM OR LEASE NAME: Ratherford Unit
3. ADDRESS OF OPERATOR: P. O. Box 1150, Cortez, CO 81321	9. WELL NO.: #18W32
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 2140' FNL & 1830' FEL (SW NE)	10. FIELD AND POOL, OR WILDCAT: Greater Aneth
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 18-T41S-R24E
14. PERMIT NO.: 43-037-15736	15. ELEVATIONS (Show whether DF, RT, GR, etc.): 4833' GL
	12. COUNTY OR PARISH: San Juan / 13. STATE: Utah

RECEIVED
MAY 01 1989
DIVISION OF OIL, GAS & MINING

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	X	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

November 29, 1988 thru December 7, 1988

MI & RU Well Service Unit 11/29/88. Release packer, POOH. Clean out w/bit & scraper to 5714' (PBTD). POOH. Run CIT log. RIH w/tubing open-ended to 5712', pump 10 sx. class B cement, displace to 5580', pull up 5 stands. Pump 15 sx class B, displaced to 5600'. Tagged top of cement at 5668'. POOH. Perforated 5611'-5615', 5618' - 5624', 4 SPF. Set packer @ 5564'. Acidized w/3000 gal. 28% HCl acid. RIH w/injection packer and tubing, set packer at 5524'. Perform UIC test. Test OK. Return well to injection. Release rig 12/7/88.

Injection Before: 4 BWPD @ 2350 psi
Injection After: 179 BWPD @ 2200 psi

5-BLM, Farmington, NM
2-Utah O&G, CC
1-M. Williams, Bartlesville
1-S. H. Oden, Casper
1-Chieftain
1-Mobil Oil
1-Texaco, Inc.
1-Chevron, USA
1-Cortez Office - RC

18. I hereby certify that the foregoing is true and correct

SIGNED M. L. Menghini TITLE DIST. SUPT. DATE 4/27/89

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-603-353

6. If Indian, Allottee or Tribe Name
Navajo Tribal

7. If Unit or CA, Agreement Designation
Ratherford Unit
SW-I-4192

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other WIW

8. Well Name and No.
Ratherford Unit #18-32

2. Name of Operator
Phillips Petroleum Company

9. API Well No.
43-037-15736

3. Address and Telephone No.
5525 Hwy 64 NBU 3004, Farmington, NM 87401 (505) 599-3412

10. Field and Pool, or Exploratory Area
Greater Aneth

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Unit G, 2140' FNL & 1830' FEL
Sec. 18, T41S, R24E

11. County or Parish, State
San Juan, Utah

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

12-14-91 thru 12-23-91 injection PJ.
MI & RU. Pulled ~~production~~ equipment. Had to strip out well. Ran bit, scraper and bailer to clean out well to PBTD of 5935'. Halco stimulated well w/5800 gals. 20% HCl. Swabbed well clean. Welchem performed scale inhibition squeeze. Pressured to 500# - okay. Returned well to ~~production~~. injection PJ.

RECEIVED
JAN 13 1992
DIVISION OF
OIL GAS & MINING

14. I hereby certify that the foregoing is true and correct

Signed L. E. Robinson Title Sr. Drlg. & Prod. Engr. Date 1-9-92
L. E. Robinson

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

P J KONKEL
PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON NM 87401

RECEIVED
AUG 16 1993
DIVISION OF
OIL, GAS & MINING

ACCOUNT NUMBER: N0772

REPORT PERIOD (MONTH/YEAR): 6 / 93

AMENDED REPORT ☐ (Highlight Changes)

Well Name / API Number	Entity	Location	Producing Zone	Well Status	Days Oper	Production Volumes OIL(BBL)	GAS(MCF)	WATER(BBL)
#21-23 4303713754	06280	41S 24E 21	DSCR	POW	29	1374	883	58
#3-44 4303715031	06280	41S 24E 3	DSCR	POW	30	111	94	2905
#3-14 4303715124	06280	41S 24E 3	DSCR	POW	30	67	23	302
#9-12 4303715126	06280	41S 24E 9	DSCR	POW	30	112	654	17363
#9-14 4303715127	06280	41S 24E 9	DSCR	POW	30	201	315	423
#28-12 4303715336	06280	41S 24E 28	PRDX	POW	29	112	47	2428
#29-12 4303715337	06280	41S 24E 29	PRDX	POW	29	56	0	672
#29-32 4303715339	06280	41S 24E 29	DSCR	POW	29	1402	287	2224
#29-34 4303715340	06280	41S 24E 29	DSCR	POW	29	757	48	0
#30-32 4303715342	06280	41S 24E 30	DSCR	POW	29	588	1049	3744
#3-12 4303715620	06280	41S 24E 3	DSCR	POW	30	268	11	363
#9-34 4303715711	06280	41S 24E 9	DSCR	POW	30	45	46	9800
#10-12 4303715712	06280	41S 24E 10	DSCR	POW	30	45	23	1088
				TOTALS		5138	3480	41370

COMMENTS: Effective July 1, 1993, Phillips Petroleum Company has sold its interest in the Ratherford Unit to Mobil Exploration and Producing U.S., Incorporated, P. O. Box 633, Midland, Texas 79702. Mobil assumed operations on July 1, 1993.

I hereby certify that this report is true and complete to the best of my knowledge. Date: 8/11/93

Name and Signature: PAT KONKEL Pat Konkel Telephone Number: 505 599-3452

(6/93)

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION & SERIAL NO.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO TRIBAL

1. OIL WELL ☐ GAS WELL ☐ OTHER

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

2. NAME OF OPERATOR: MOBIL OIL CORPORATION

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR: P. O. BOX 633 MIDLAND, TX 79702

9. WELL NO.

RECEIVED
SEP 13 1993
DIVISION OF
OIL, GAS & MINING

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface

At proposed prod. zone

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

14. API NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY	13. STATE
		SAN JUAN	UTAH

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) CHANGE OF OPERATOR			
(Other)				(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			
APPROX. DATE WORK WILL START _____				DATE OF COMPLETION _____			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

* Must be accompanied by a cement verification report.

AS OF JULY1, 1993, MOBIL OIL CORPORATION IS THE OPERATOR OF THE RATHERFORD UNIT. ATTACHED ARE THE INDIVIDUAL WELLS.

18. I hereby certify that the foregoing is true and correct

SIGNED Shirley Todd TITLE ENV. & REG TECHNICIAN DATE 9-8-93

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

See Instructions On Reverse Side

(3/89)

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

OCT 25 1993

TRANSFER OF AUTHORITY TO INJECT - UIC FORM 5

Well name and number: _____

Field or Unit name: RATHERFORD UNIT API no. _____

Well location: QQ ____ section ___ township ___ range ___ county _____

Effective Date of Transfer: July 1, 1993

CURRENT OPERATOR

Transfer approved by:

Name Ed Hasely Company Phillips Petroleum Company

Signature Ed Hasely Address 5525 HWY. 64

Title Environmental Engineer Farmington, NM 87401

Date October 22, 1993 Phone (505) 599-3460

Comments:

NEW OPERATOR

Transfer approved by:

Name Shirley Todd Company Mobil Exploration & Producing North America

Signature Shirley Todd Address P O Box 633

Title Env. & Reg. Technician Midland, TX 79702

Date October 7, 1993 Phone (915) 688-2585

Comments:

(State use only)
Transfer approved by [signature] Title UIC Manager

Approval Date 10-27-93

Lisha Cordova (801) 538-5340

(3/89)

BEFORE THE OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF UTAH

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR THE APPROVAL OF THE UNIT OPERATIONS AND PRESSURE MAINTENANCE PROGRAM FOR THE RATHERFORD UNIT IN THE GREATER ANETH AREA, SAN JUAN COUNTY, UTAH	))))))	CAUSE NO. 63

ORDER

This Cause came on for hearing before the Oil and Gas Conservation Commission of the State of Utah at 10 o'clock a. m. on Wednesday, September 13, 1961, in the Crystal Room, Hotel Newhouse, Fourth South at Main Street, Salt Lake City, Utah, pursuant to notice duly and regularly given. The entire Commission, except Walter G. Mann, was present, Edward W. Clyde presiding. Appearances were made as follows: Cecil C. Hamilton, attorney, on behalf of Phillips Petroleum Company; Clair M. Senior, attorney, on behalf of Texaco, Inc.; Gordon Mayberry, attorney, on behalf of Continental Oil Company; R. R. Robison on behalf of Shell Oil Company. Others present included Carl Trawick, on behalf of United States Geological Survey; and J. R. White, on behalf of Texaco, Inc.

Evidence in support of the application was introduced by Phillips Petroleum Company, the applicant and Unit Operator of the Ratherford Unit, which embraces as the unit area the following described land in San Juan County, State of Utah, to wit:

TOWNSHIP 41 SOUTH, RANGE 23 EAST, SLBM

Section 1:	All	Sections 12 and 13:	All
Section 2:	S/2	Section 14:	S/2
Section 11:	E/2	Section 24:	All

TOWNSHIP 41 SOUTH, RANGE 24 EAST, SLBM

Section 3:	SW/4	Sections 15 through 21:	All
Section 4:	S/2	Section 22:	NW/4 and S/2 of the SW/4
Sections 5 through 9:	All		
Section 10:	S/2 and NE/4 and E/2 of NE/4	Section 23:	NE/4 and E/2 of NE/4 and W/2 of SW/4
Section 11:	S/2 of SW/4		
Section 14:	W/2	Section 29 and 30:	All
		Section 31:	N/2
		Section 32:	E/2

R. R. Robison on behalf of Shell Oil Company stated that (as contemplated by paragraph No. 5 of the Commission's order of February 24, 1959, in Cause No. 17 authorizing the drilling of certain test wells) Shell would submit to the Commission, as arbiter, the question as between Shell and Superior Oil Company

of the monetary value, if any, to be attributed to three test wells drilled within the Ratherford Unit area pursuant to said order of February 24, 1959.

No objection to the granting of the application was filed or expressed. The Shell Oil Company, Texaco, Inc. and Continental Oil Company expressed their support of the application of Phillips Petroleum Company.

FINDINGS OF FACT

The Commission finds that:

1. The unitized operation of the Ratherford Unit Area will enable pressure maintenance operations to be initiated and permit such Area to be operated in a manner which will prevent waste, protect correlative rights and result in greater ultimate recovery of oil and gas.

2. The Ratherford Unit Agreement has been approved by the various signatory parties as fair, reasonable and acceptable.

3. The water injection pressure maintenance program proposed by the applicant appears to be proper and designed to result in the greatest economic recovery of oil and gas to the end that all concerned, including the general public, may realize and enjoy the greatest good from the oil and gas resources of the unitized lands.

O R D E R

THEREFORE, IT IS ORDERED BY THE COMMISSION, and subject to its continuing jurisdiction, that:

1. Unit operation of the Ratherford Unit Area under the Ratherford Unit Agreement is approved.

2. The plan and program of water injection pressure maintenance operations proposed by applicant in its application filed herein should be and the same is hereby approved and the unit operator is authorized to proceed with and under such plan and program as soon as the Ratherford Unit Agreement becomes effective and operative.

3. If, at any time or from time to time, it appears necessary or desirable to the unit operator to alter or modify the hereby approved plan of pressure maintenance, any such alteration or modification shall be submitted for

and shall be subject to approval by the Commission or its delegated representative, which approval may be given without notice or hearing, unless otherwise ordered or directed by the Commission.

Dated this 13th day of September, 1961.

THE OIL AND GAS CONSERVATION
COMMISSION OF THE STATE OF UTAH

Edward W. Clyde, Commissioner presiding

C. R. Henderson, Chairman

M. V. Hatch, Commissioner

C. S. Thomson, Commissioner

Walter G. Mann, Commissioner

FORM 11

STATE OF UTAH
/ISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS DISPOSITION REPORT

OPERATOR NAME AND ADDRESS:

L. Sheffield
~~BRIAN BERRY~~
~~M E P N A~~ MOBIL
~~POB 219031 1807A RENTWR~~ P.O. DRAWER G
DALLAS TX 75221-9031 CORTEZ, Co. 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 7 / 93

AMENDED REPORT ☐ **(Highlight Changes)**

*931006 updated. fc

ENTITY NUMBER	PRODUCT	GRAVITY BTU	BEGINNING INVENTORY	VOLUME PRODUCED	DISPOSITIONS TRANSPORTED	DISPOSITIONS USED ON SITE	DISPOSITIONS FLARED/VENTED	DISPOSITIONS OTHER	ENDING INVENTORY
05980	OIL			177609	177609	0			
	GAS			72101	66216	5885			
11174	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
TOTALS				249710	243825	5885			

RECEIVED
SEP 13 1993
DIVISION OF
OIL, GAS & MINING

COMMENTS: PLEASE NOTE ADDRESS CHANGE. MOBIL ~~EPNA~~ PRODUCTION REPORTS WILL BE COMPILED AND SENT FROM THE CORTEZ, Co. OFFICE IN THE FUTURE.

I hereby certify that this report is true and complete to the best of my knowledge.

Date: 9/6/93

Name and Signature: Lowell B Sheffield

Telephone Number: ~~214 658 2528~~ 303 565 2212

Sept 29, 1993

TO: Lisha Cordova - Utah Mining Oil & Gas

FROM: Janice Easley
BLM Farmington, NM
505 599-6355

Here is copy of Ratherford Unit Successor Operator.

4 pages including this one.

Ratherford Unit (GC)

Navajo Area Office
P. O. Box 1060
Gallup, New Mexico 87305-1060

ARES/543

JUL 26 1993

Mr. G. D. Cox
Mobil Exploration and
Producing North America, Inc.
P. O. Box 633
Midland, Texas 79702

Dear Mr. Cox:

Enclosed for your information and use is the approved Designation of Operator between the Phillips Petroleum Company and Mobil Exploration and Producing North America, Inc. for the Ratherford Unit.

Please note that all other concerned parties will be furnished their copy of the approved document.

Sincerely,

ACTING Area Director

Enclosure

cc: Bureau of Land Management, Farmington District Office w/enc.
TNN, Director, Minerals Department w/enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

DESIGNATION OF OPERATOR

Phillips Petroleum Company is, on the records of the Bureau of Indian Affairs, operator of the Ratherford Unit,

AREA OFFICE: Window Rock, Arizona
LEASE NO: Attached hereto as Exhibit "A"

and, pursuant to the terms of the Ratherford Unit Agreement, is resigning as Unit Operator effective July 1, 1993, and hereby designates

NAME: Mobil Exploration and Producing North America Inc., duly elected pursuant to the terms of the Ratherford Unit Agreement,

ADDRESS: P. O. Box 633, Midland, Texas 79702
Attn: G. D. Cox

as Operator and local agent, with full authority to act on behalf of the Ratherford Unit lessees in complying with the terms of all leases and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3160 and 25 CFR 211 and 212) with respect to (described acreage to which this designation is applicable):

Attached hereto as Exhibit "A"

Bond coverage under 25 CFR 211, 212 or 225 for lease activities conducted by the above named designated operator is under Bond Number 05202782 (attach copy). Evidence of bonding is required prior to the commencement of operations.

It is understood that this designation of operator does not relieve any lessee of responsibility for compliance with the terms of the leases and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the leases.

In case of default on the part of the designated operator, the lessees will make full and prompt compliance with all regulations, lease terms, stipulations, or orders of the Secretary of the Interior or his representative.

Attached is the appropriate documentation relevant to this document.

The designated operator agrees to promptly notify the authorized officer of any change in the operatorship of said Ratherford Unit.

Phillips Petroleum Company

June 17, 1993

By: M. B. Frank, J.
Attorney-in-Fact

Mobil Exploration and Producing
North America Inc.

June 11, 1993

By: B. D. Martiny
Attorney-in-Fact B.D. MARTINY

ACTING AREA DIRECTOR 7/9/93
APPROVED BY TITLE DATE

APPROVED PURSUANT, TO SECRETARIAL REDELEGATION ORDER 209 DM 8 AND 230 DM 3.

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and therefore does not require OMB approval.

EXHIBIT "A"

ATTACHED TO AND MADE A PART OF DESIGNATION OF SUCCESSOR OPERATOR, RATHERFORD UNIT

EXHIBIT "C"

Revised as of September 29, 1992)
SCHEDULE OF TRACT PERCENTAGE PARTICIPATION

Tract Number	Description of Land	Serial Number and Effective Date of Lease	Tract Percentage Participation
1	S/2 Sec. 1, E/2 SE/4 Sec. 2, E/4 Sec. 11, and all of Sec. 12, T-41-S, R-23-E, S.L.M. San Juan County, Utah	14-20-603-246-A Oct. 5, 1953	11.0652565
2	SE/4 and W/2 SW/4 Sec. 5, the irregular SW/4 Sec. 6, and all of Sec. 7 and 8, T-41-S, R-24-E, San Juan County, Utah	14-20-603-368 Oct. 26, 1953	14.4159942
3	SW/4 of Sec. 4, T-41-S, R-24-E, San Juan County, Utah	14-20-603-5446 Sept. 1, 1959	.5763826
4	SE/4 Sec. 4, and NE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4035 March 3, 1958	1.2587779
5	SW/4 of Sec. 3, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5445 Sept. 3, 1959	.4667669
6	NW/4 of Sec. 9, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5045 Feb. 4, 1959	1.0187043
7	NW/4, W/2 NE/4, and SW/4 Sec. 10, SE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4043 Feb. 18, 1958	3.5097575
8	SW/4 Sec. 9, T-41-S, R-24-E, S.L.M. San Juan County, Utah	14-20-603-5046 Feb. 4, 1959	1.1141679
9	SE/4 Sec. 10 and S/2 SW/4 Sec. 11 T-41-S, R-24-E, San Juan County, Utah	14-20-603-4037 Feb. 14, 1958	2.6186804
10	All of Sec. 13, E/2 Sec. 14, and E/2 SE/4 and N/2 Sec. 24, T-41-S, R-23-E, S.L.M., San Juan County, Utah	14-20-603-247-A Oct. 5, 1953	10.3108861
11	Sections 17, 18, 19 and 20, T-41-S, R-24-E, San Juan County Utah	14-20-603-353 Oct. 27, 1953	27.3389265
12	Sections 15, 16, 21, and NW/4, and W/2 SW/4 Sec. 22, T-41-S, R-24-E, San Juan County, Utah	14-20-603-355 Oct. 27, 1953	14.2819339
13	W/2 Section 14, T-41-S, R-24-E, San Juan County, Utah	14-20-603-370 Oct. 26,1953	1.8500847
14	N/2 and SE/4, and E/2 SW/4 Sec. 29, NE/4 and E/2 SE/4 and E/2 W/2 irregular Sec. 30, and E/2 NE/4 Sec. 32, T-41-S, R-24-E, San Juan County, Utah	14-20-603-407 Dec. 10, 1953	6.9924969
15	NW/4 Sec. 28, T-41-S, R24-E San Juan County, Utah	14-20-603-409 Dec. 10, 1953	.9416393
16	SE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6504 July 11, 1961	.5750254
17	NE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6505 July 11, 1961	.5449292
18	NW/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6506 July 11, 1961	.5482788
19	NE/4 Sec. 4, T-41-S, R24-E San Juan County, Utah	14-20-0603-7171 June 11, 1962	.4720628
20	E/2 NW/4 Sec. 4, T-41-S, R-24-E San Juan County, Utah	14-20-0603-7172 June 11, 1962	.0992482
100% Indian Lands		TOTAL 12,909.74	100.0000000

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[] Well File _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[] Suspense

(Return Date) _____

(To - Initials) _____

XXX Other

OPERATOR CHANGE

_____

_____

1. Date of Phone Call: 10-6-93 Time: 9:30

2. DOGM Employee (name) L. CORDOVA (Initiated Call XXX)

Talked to:

Name GLEN COX (Initiated Call []) - Phone No. (915)688-2114

of (Company/Organization) MOBIL

3. Topic of Conversation: OPERATOR CHANGE FROM PHILLIPS TO MOBIL "RATHERFORD UNIT".

(NEED TO CONFIRM HOW OPERATOR WANTS THE WELLS SET UP - MEPNA AS PER BIA APPROVAL

OR MOBIL OIL CORPORATION AS PER SUNDRY DATED 9-8-93?)

4. Highlights of Conversation:

MR. COX CONFIRMED THAT THE WELLS SHOULD BE SET UNDER ACCOUNT N7370/MEPNA AS PER BIA APPROVAL, ALSO CONFIRMED THAT PRODUCTION & DISPOSITION REPORTS WILL NOW BE HANDLED OUT OF THEIR CORTEZ OFFICE RATHER THAN DALLAS.

MEPNA-

PO DRAWER G

CORTEZ, CO 81321

(303)565-2212

*ADDRESS CHANGE AFFECTS ALL WELLS CURRENTLY OPERATORED BY MEPNA, CURRENTLY REPORTED OUT OF DALLAS (MCELMO CREEK).

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1-LEC/7-SJ
2-DTS/8-FILE
3-VLC
4-RJF
5-LEC
6-PL

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

☒ Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator ☐ Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 7-1-93)

TO (new operator) MEPNA
(address) PO DRAWER G
CORTEZ, CO 81321
GLEN COX (915)688-2114
phone (303) 565-2212
account no. N7370

FROM (former operator) PHILLIPS PETROLEUM COMPANY
(address) 5525 HWY 64 NBU 3004
FARMINGTON, NM 87401
PAT KONKEL
phone (505) 599-3452
account no. N0772(A)

Well(s) (attach additional page if needed): *RATHERFORD UNIT (NAVAJO)

Name: **SEE ATTACHED**	API: 43-037-15736	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:
Name:	API:	Entity:	Sec	Twp	Rng	Lease Type:

OPERATOR CHANGE DOCUMENTATION

Lec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). (Req. 8-20-93) (6/93 Prod. Rpt. 8-16-93)

Lec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). (Req. 8-31-93) (Rec'd 9-14-93)

N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.

Lec 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of Federal and Indian well operator changes should take place prior to completion of steps 5 through 9 below.

Lec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 6. Cardex file has been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 7. Well file labels have been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (10-6-93)

Lec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

- OVER -

PERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

NTITY REVIEH

Lec 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ____ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

OND VERIFICATION (Fee wells only)

Lec/N/A 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

__ 2. A copy of this form has been placed in the new and former operators' bond files.

__ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19____. If yes, division response was made by letter dated _____ 19___.

EASE INTEREST OHNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.

DTS 11-10-93

N/A 2. Copies of documents have been sent to State Lands for changes involving State leases.

ILMING

✓ 1. All attachments to this form have been microfilmed. Date: 11-17 1993.

ILING

Lec 1. Copies of all attachments to this form have been filed in each well file.

Lec 2. The original of this form and the original attachments have been filed in the Operator Change file.

OMMENTS

931006 BIA/Bhn Approved 7-9-93.

E71/34-35

19W-21	43-037-15741	14-20-603-353	SEC. 19, T41S, R24E	NE/NW 660' FNL 1860' FWL
19-22	43-037-31046	14-20-603-353	SEC. 19, T41S, R24E	SE/NW 1840' FNL; 1980' FWL
19W-23	43-037-15742	14-20-603-353	SEC. 19, T41S, R24E	NE/SW 2080' FSL; 1860' FWL
19-31	43-037-31047	14-20-603-353	SEC. 19, T41S, R24E	NW/NE 510' FNL; 1980' FEL
19-32	43-037-15743	14-20-603-353	SEC. 19, T41S, R24E	SW/NE 1980' FNL; 1980' FEL
19-33	43-037-31048	14-20-603-353	SEC. 19, T41S, R24E	NW/SE 1980' FSL; 1980' FEL
19-34	43-037-15744	14-20-603-353	SEC. 19, T41S, R24E	SW/SE 660' FSL; 1980' FEL
19W-41	43-037-15745	14-20-603-353	SEC. 19, T41S, R24E	NE/NE 660' FNL; 660' FEL
19-42	43-037-30916	14-20-603-353	SEC. 19, T41S, R24E	SE/NE 1880' FNL, 660' FEL
19W-43	43-037-16420	14-20-603-353	SEC. 19, T41S, R24E	NE/SE 1980' FSL; 760' FEL
19-44	43-037-31081	14-20-603-353	SEC. 19, T41S, R24E	SE/SE 660' FSL; 660' FEL
19-97	43-037-31596	14-20-603-353	SEC. 19, T41S, R24E	2562' FNL, 30' FEL
20-11	43-037-31049	14-20-603-353	SEC. 20, T41S, R24E	NW/NW 500' FNL; 660' FWL
20-12	43-037-15746	14-20-603-353	SEC. 20, T41S, R24E	1980' FNL, 660' FWL
20-13	43-037-30917	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2140' FSL, 500' FWL
20-14	43-037-15747	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 660' FWL
20W-21	43-037-16423	14-20-603-353	SEC. 20, T41S, R24E	660' FNL; 1880' FWL
20-22	43-037-30930	14-20-603-353	SEC. 20, T41S, R24E	SE/NW 2020' FNL; 2090' FWL
20W-23	43-037-15748	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2080; 2120' FWL
20-24	43-037-30918	14-20-603-353	SEC. 20, T41S, R24E	SE/SW 820' FSL; 1820' FWL
20-31	43-037-31050	14-20-603-353	SEC. 20, T41S, R24E	NW/NE 660' FNL; 1880' FEL
20-32	43-037-15749	14-20-603-353	SEC. 20, T41S, R24E	SW/NE 1980' FNL, 1980' FEL
20-33	43-037-30931	14-20-603-353	SEC. 20, T41S, R24E	NW/SE 1910' FSL; 2140' FEL
20-34	43-037-15750	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 1850' FEL
20W-41	43-037-15751	14-20-603-353	SEC. 20, T41S, R24E	NE/NE 660' FNL; 660' FEL — PA'd
20-42	43-037-31051	14-20-603-353	SEC. 20, T41S, R24E	SE/NE 1980 ' FNL; 660' FEL
20W-43	43-037-16424	14-20-603-353	SEC. 20, T41S, R24E	2070' FSL; 810' FEL
20-44	43-037-30915	14-20-603-353	SEC. 20, T41S, R24E	SE/SE 620' FSL; 760' FEL
20-66	43-037-31592	14-20-603-353	SEC. 20, T41S, R24E	SW/NW 1221' FWL; 1369' FNL
21-11	43-037-31052	14-20-603-355	SEC. 21, T41S, R24E	NW/NW 660' FNL; 660 FWL
21-12	43-037-15752	14-20-603-355	SEC. 21, T41S, R24E	2080' FNL; 660' FWL
21-13	43-037-30921	14-20-603-355	SEC. 21, T41S, R24E	NW/SW 2030' FSL; 515' FWL
21-14	43-037-15753	14-20-603-355	SEC. 21, T41S, R24E	SW/SW 660' FSL; 460' FWL
21W-21	43-037-16425	14-20-603-355	SEC. 21, T41S, R24E	NE/NW 660' FNL; 2030' FWL
21-32	43-037-15755	14-20-603-355	SEC. 21, T41S, R24E	SW/NE 1880' FNL; 1980' FEL
~~21-33~~	NA	~~14-20-603-355~~	~~SEC. 21, T41S, R24E~~	~~2000 FSL, 1860' FEL~~
21-34	43-037-15756	14-20-603-355	SEC. 21, T41S, R24E	SW/SE 660' FSL; 1980' FEL
21W-41	43-037-16426	14-20-603-355	SEC. 21, T41S, R24E	660' FNL; 810' FEL — PA'd
21W-43	43-037-16427	14-20-603-355	SEC. 21, T41S, R24E	NE/NE 1980' FSL; 660' FEL
24-11	43-037-15861	14-20-603-247A	SEC. 24, T41S, R24E	510' FNL; 810' FWL — PA'd
24W-21	43-037-16429	14-20-603-247	SEC. 24, T41S, R24E	4695' FSL; 3300' FEL — PA'd
24W-43	43-037-16430	14-20-603-247	SEC. 24, T41S, R24E	2080' FSL; 660' FEL
24-31W	43-037-15862	14-20-603-247A	SEC. 24, T41S, R24E	NW/NE 560' FNL; 1830' FEL
24-32	43-037-31593	14-20-603-247A	SEC. 24, T41S, R24E	SW/NE 2121' FNL; 1846' FEL
24-41	43-037-31132	14-20-603-247A	SEC. 24, T41S, R24E	NE/NE 660' FNL; 710' FEL
24W-42	43-037-15863	14-20-603-247A	SEC. 24, T41S, R24E	660' FSL; 1980' FNL
28-11	43-037-30446	14-20-603-409	SEC. 28, T41S, R24E	NW/NW 520' FNL; 620' FWL
28-12	43-037-15336	14-20-603-409B	SEC. 28, T41S, R24E	SW/SE/NW 2121' FNL; 623' FWL
29-11	43-037-31053	14-20-603-407	SEC. 29, T41S, R24E	NW/NW 770' FNL; 585' FWL
29W-21	43-037-16432	14-20-603-407	SEC. 29, T41S, R24E	NE/NW 667' FNL; 2122' FWL
29-22	43-037-31082	14-20-603-407	SEC. 29, T41S, R24E	SE/NW 2130' FNL; 1370' FWL
29W-23	43-037-15338	14-20-603-407	SEC. 29, T41S, R24E	NE/SW 1846' FSL; 1832' FWL
29-31	43-037-30914	14-20-603-407	SEC. 29, T41S, R24E	NW/NE 700' FNL; 2140' FEL
29-32	43-037-15339	14-20-603-407	SEC. 29, T41S, R24E	1951' FNL; 1755' FEL
29-33	43-037-30932	14-20-603-407	SEC. 29, T41S, R24E	NW/SE 1860' FSL; 1820' FEL
29-34	43-037-15340	14-20-603-407	SEC. 29, T41S, R24E	817 FSL; 2096' FEL
29W-41	43-037-16433	14-20-603-407	SEC. 29, T41S, R24E	557' FNL; 591' FEL
29W-42	43-037-30937	14-20-603-407	SEC. 29, T41S, R24E	SE/NE 1850' FNL; 660' FEL
29W-43	43-037-16434	14-20-603-407	SEC. 29, T41S, R24E	NE/SE 1980' FSL; 660' FEL
30-21W	43-037-16435	14-20-603-407	SEC. 30, T41S, R24E	660' FNL; 1920' FWL
30-32	43-037-15342	14-20-603-407	SEC. 30, T41S, R24E	SW/NE 1975' FNL; 2010' FEL
30W-41	43-037-15343	14-20-603-407	SEC. 30, T41S, R24E	NE/NE 660' FNL; 660' FEL
9-34	NA 43037157II	NA 1420603403	NA Sec. 9 T. 41S, R. 24E	NA SWSE 660' FSL 1980 FEL
12-43	43-307-31202	14-20-603-246	SEC. 12. T41S. R23E	2100' FSL;660 FEL
12W31	43-037-15847	14-20-603-246	SEC. 12, T41S, R23E	661' FNL;, 1981' FEL
13W24	43-037-15853	14-20-603-247	SEC. 13, T41S, R23E	SE/SW 660' FSL;3300'FEL
15W23	43-037-16412	14-20-603-355	SEC. 15, T41S, R24E	2140' FSL;1820' FWL
17-24	43-037-31044	14-20-603-353	SEC. 17, T41S, R24E	SE/SW 720' FSL; 1980' FWL
18-13	43-037-15734	14-20-603-353	SEC. 18, T41S, R24E	NW/NW 1980' FSL;500' FWL
18W32	43-037-15736	14-20-603-353	SEC. 18, T41S, R24E	SW/NE2140'FNL;1830' FEL
20-68	43-037-31591	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 1276' FWL;1615' FSL
21-23	43-037-13754	14-20-603-355	SEC. 21, T41S, R24E	NE/SW 1740 FSL 1740 FWL
28W21	43-037-16431	14-20-603-409	SEC.29, T41S, R24E	660' FNL; 2022' FWL

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 11 1994

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-603-353

6. If Indian, Allottee or Tribe Name
NAVAJO TRIBAL

7. If Unit or CA, Agreement Designation
RATHERFORD UNIT

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other

8. Well Name and No.
RATHERFORD UNIT 18-W-32

2. Name of Operator
MOBIL EXPLORATION & PRODUCING US, AS AGENT FOR MEPNA

9. API Well No.
43-037-15736

3. Address and Telephone No.
P. O. BOX 633, MIDLAND, TX 79702 **(915) 688-2585**

10. Field and Pool, or exploratory Area
GREATER ANETH

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2140' FSL, 1980 FEL; SEC. 18, T41S, R24E

11. County or Parish, State
SAN JUAN, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☒ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other **ACIDIZE**	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

03-28-94 MIRU. PRESS TEST COIL TBG & BOP TO 5000 PSI/HELD. TAG FILL AT 5654'. PUMP 4200 GALS 15% HCL ACROSS PERF INTERVAL 5611-30'. DISP W/15 BBLS FW. NU WELLHEAD. RETURN TO INJECTION.

14. I hereby certify that the foregoing is true and correct
Signed D. Brin for Shirley Todd Title **ENV. & REG. TECHNICIAN** Date **04/04/94**

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*** See Instruction on Reverse Side**

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[ ] **Well File** _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[ ] **Suspense**
(Return Date) _____
(To - Initials) _____

[XXX] **Other**
OPER NM CHG

_____

_____

1. Date of Phone Call: 8-3-95 Time: _____

2. DOGM Employee (name) L. CORDOVA (Initiated Call [ ])
Talked to:

Name R. J. FIRTH (Initiated Call [XX]) - Phone No. (___) _____

of (Company/Organization) _____

3. Topic of Conversation: M E P N A / N7370

4. Highlights of Conversation:

OPERATOR NAME IS BEING CHANGED FROM M E P N A (MOBIL EXPLORATION AND PRODUCING NORTH AMERICA INC) TO MOBIL EXPLOR & PROD. THE NAME CHANGE IS BEING DONE AT THIS TIME TO ALLEVIATE CONFUSION, BOTH IN HOUSE AND AMONGST THE GENERAL PUBLIC.

*SUPERIOR OIL COMPANY MERGED INTO M E P N A 4-24-86 (SEE ATTACHED).

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:

1-LEC	7-PL
2-LWP	8-SJ
3-~~DTS~~	9-FILE
4-VLC	
5-RJF	
6-LWP	

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

☐ Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator XXX Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: **8-2-95**)

TO (new operator) **MOBIL EXPLOR & PROD**	FROM (former operator) **M E P N A**
(address) **C/O MOBIL OIL CORP**	(address) **C/O MOBIL OIL CORP**
PO DRAWER G	**PO DRAWER G**
CORTEZ CO 81321	**CORTEZ CO 81321**
phone (**303**) **564-5212**	phone (**303**)**564-5212**
account no. **N7370**	account no. **N7370**

Well(s) (attach additional page if needed):

Name: **** SEE ATTACHED ****	API: 037-15736	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	
Name:	API:	Entity:	Sec Twp Rng	Lease Type:	

OPERATOR CHANGE DOCUMENTATION

N/A 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form).

N/A 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form).

N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.

N/A 4. **(For Indian and Federal Wells ONLY)** The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.

Lec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (8-3-95)

LWP 6. Cardex file has been updated for each well listed above. 8-31-95

LWP 7. Well file labels have been updated for each well listed above. 9-28-95

Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (8-3-95)

Lec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

OPERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

ENTITY REVIEW

LEC 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ___ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only) * No Fee Lease Wells at this time!

N/A/LEC 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

___ 2. A copy of this form has been placed in the new and former operators' bond files.

___ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.

UT-S 8/5/95 FS

N/A 2. Copies of documents have been sent to State Lands for changes involving **State leases.**

FILMING

✓ 1. All attachments to this form have been microfilmed. Date: October 4 19 95.

FILING

___ 1. Copies of all attachments to this form have been filed in each well file.

___ 2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

950803 UIC F5/Not necessary!

STATE OF UTAH
INVENTORY OF INJECTION WELLS

OPERATOR	API NO.	WELL	TNS	RGE	SE	WELLTYPE	INDIAN COUNT
MEPNA (MOBIL	43-037-15722	16W23	41S	24E	16	INJW	Y
MEPNA (MOBIL	43-037-16414	16W21	41S	24E	16	INJW	Y
MEPNA (MOBIL	43-037-16416	17W21	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15726	17W12	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15731	17W41	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-16417	17W43	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15728	17W23	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15730	17W34	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15729	17W32	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-15727	17W14	41S	24E	17	INJW	Y
MEPNA (MOBIL	43-037-31153	18W12	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-15737	18W34	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-15736	18W32	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-30244	18W23	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-15735	18W14	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-16418	18W21	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-15738	18W41	41S	24E	18	INJW	Y
MEPNA (MOBIL	43-037-15741	19W21	41S	24E	19	INJW	Y
MEPNA (MOBIL	43-037-15742	19W23	41S	24E	19	INJW	Y
MEPNA (MOBIL	43-037-15745	19W41	41S	24E	19	INJW	Y
MEPNA (MOBIL	43-037-16420	19W43	41S	24E	19	INJW	Y
MEPNA (MOBIL	43-037-15748	20W23	41S	24E	20	INJW	Y
MEPNA (MOBIL	43-037-15751	20W41	41S	24E	20	INJW	Y
MEPNA (MOBIL	43-037-16423	20W21	41S	24E	20	INJW	Y
MEPNA (MOBIL	43-037-16424	20W43	41S	24E	20	INJW	Y
MEPNA (MOBIL	43-037-16427	21W43	41S	24E	21	INJW	Y
MEPNA (MOBIL	43-037-16425	21W21	41S	24E	21	INJW	Y
MEPNA (MOBIL	43-037-16431	28W21	41S	24E	28	INJI	Y
MEPNA (MOBIL	43-037-16433	29W41	41S	24E	29	INJW	Y
MEPNA (MOBIL	43-037-16432	29W21	41S	24E	29	INJW	Y
MEPNA (MOBIL	43-037-15338	29W23	41S	24E	29	INJI	Y
MEPNA (MOBIL	43-037-16434	29W43	41S	24E	29	INJW	Y
MEPNA (MOBIL	43-037-15343	30-41	41S	24E	30	INJW	Y
MEPNA (MOBIL	43-037-16435	30W21	41S	24E	30	INJI	--

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other INJECTOR
2. Name of Operator: Mobil Exploration & Producing U.S. Inc. as Agent for Mobil Producing TX & NM Inc.
3. Address and Telephone No.: P.O. Box 633, Midland, TX 79702 915-688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 2140' FNL & 1830' FEL SEC.18, T41S, R24E

8. Well Name and No.: RATHERFORD 18-W-32
9. API Well No.: 43-037-15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[X] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other _____	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SEE ATTACHED PROCEDURE.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

14. I hereby certify that the foregoing is true and correct
Signed Shirley Todaro Title ENV. & REG. TECHNICIAN Date 04-08-97

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

TO: ~~Steve H.~~
Dennis/Dwight

RATHERFORD UNIT 18W32
MIT PROCEDURE
TOM COCHRANE 4/8/97

INTENT IS TO ATTEMPT CASING REPAIR TWICE, THEN RE-EVALUATE WELL IF NO SQUEEZE IS OBTAINED.

GENERAL

1. BLEED WELL DOWN, KILL WITH 10# BW IF NEEDED. MIRU PU. ND WH, NU BOP.

2. POH W/DUOLINE TBG. CALL THOMPSON TSOSIE TO EVALUATE TUBING FOR RE-RUN. DUOLINE TUBING CAN BE RE-RUN IF IT DOESN'T ALREADY HAVE THE SMALLEST RINGS. IT IS POSITION MAKEUP TUBING THAT DOES HOLD PRESSURE IF PROPERLY MADE UP, AND IF THE THREADS ARE NOT WORN OUT SO THAT THE SMALLEST RINGS WONT WORK. LD INTERLOCK PACKER.

3. GIH, SET CIBP @ 5500'. W/PKR ON TBG ISOLATE AND TEST LEAK. IF CAN EIR, SQZ UNDER CMT RET W/50 OR MORE SX G TO 1500#. IF CANNOT EIR AND IS A BLEEDOFF LEAK, SPOT 25 SX ACROSS LEAK AND PRESSURE UP TO 1500# UNTIL IT HOLDS. SION.

4. DO & TEST TO 1000# FOR 30 MINS.

   IF PASSES TEST, DO CIBP, CO WELL TO 5668'. POH.

   IF FAILS TEST, REPEAT STEP TWO ONCE. RDMO FOR TEAM TO RE-EVALUATE IF SECOND SQUEEZE FAILS.

5. RE-RUN TUBING IN WELL IF NO EXTERNAL CORROSION, HOLIDAYS IN TBG ENDS, AND RINGS THAT WERE IN COLLARS ARE NOT THE SMALLEST. RUN OOT ABOVE, AND SS PROFILE BELOW (REMEMBER IT IS 2.375" TBG.

6. RDMO AN NOTIFY THOMPSON TSOSIE TO SCHEDULE MIT.

TOM COCHRANE 4/97

5. NOTIFY THOMPSON TSOSIE @ RATHERFORD TO SCHEDULE MIT.

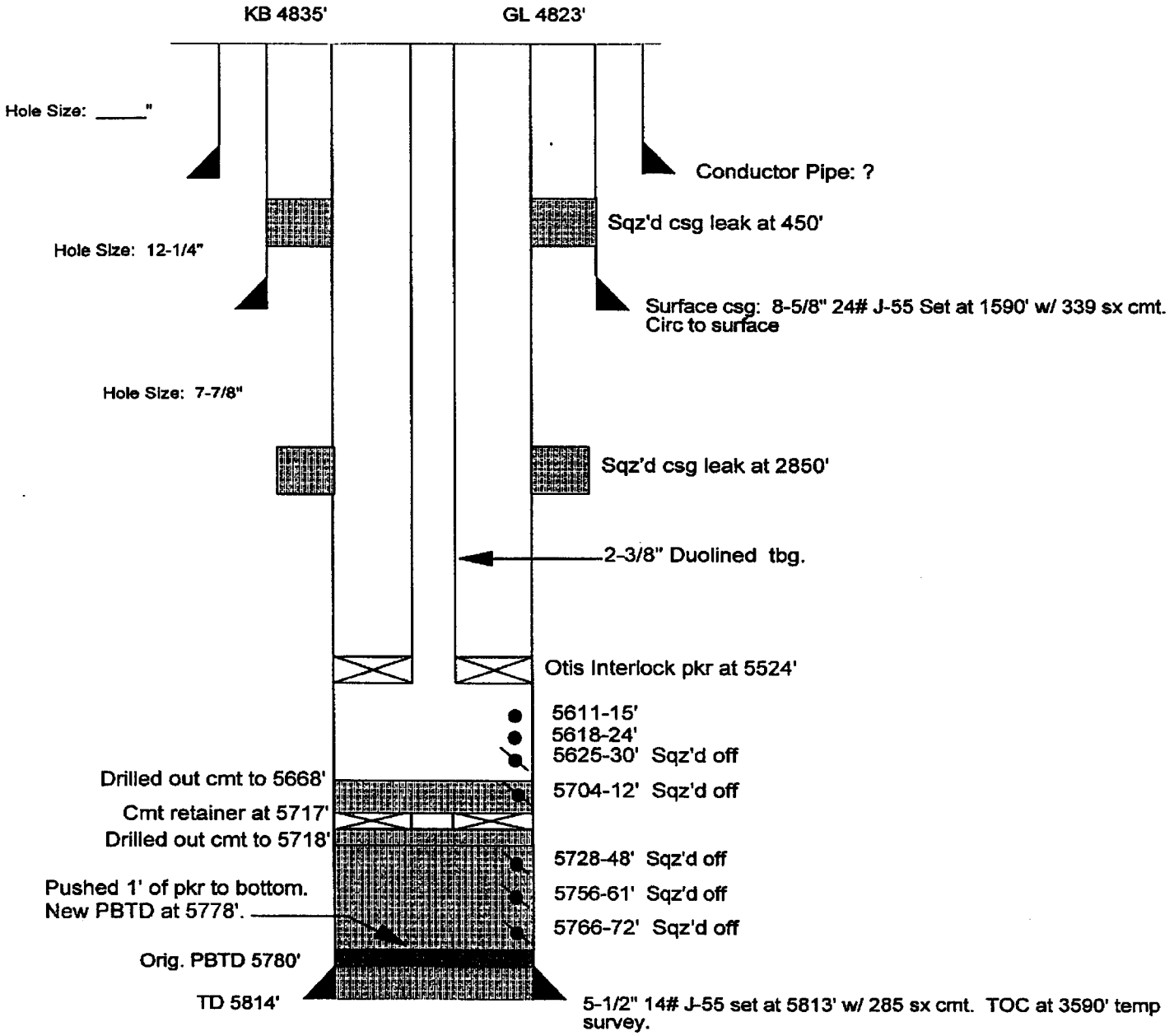
TOM COCHRANE 3/14/97

RATHERFORD UNIT # 18W-32

GREATER ANETH FIELD
2140' FNL & 1830' FEL
SEC 18-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-15736
PRISM 0043069

INJECTOR

Capacities:	bbl/ft	gal/ft	cuft/ft
2-7/8" 6.5#	.00579	.2431	.0325
5-1/2" 14#	.0244	1.0249	.1370
5-1/2" 15.5#	.0238	.9997	.1336
2-7/8x5.5"14#	.0164	.6877	.0919
2-7/8x5.5"15.5#	.0158	.6625	.0886



L. A. TUCKER 6-24-96 R.U. # 18W-32

(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other INJECTOR
2. Name of Operator: Mobil Exploration & Producing U.S. Inc. as Agent for Mobil Producing TX & NM Inc.
3. Address and Telephone No.: P.O. Box 633, Midland, TX 79702 915-688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 2140' FNL & 1830' FEL SEC.18, T41S, R24E

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 18-W-32
9. API Well No.: 43-037-15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[X] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other INJECTOR	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SEE ATTACHED.

RECEIVED
JUL 21 1997
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Shirley Hawkins Title ENV. & REG. TECHNICIAN Date 07-17-97

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

WO tax credit - 9/97

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT #18-W-32
14-20-603-247A
NAVAJO TRIBAL
SAN JUAN, UTAH

04-10-97	CALLED MELVIN CAPITAN W/NAVAJO EPA @ 12:04 PM. INFORMED OF IMPENDING INTENT TO WORK OVER WELL & DIG WORK PIT. LINED W/12 MASH LINING. OK. CALLED BLM @ 12:09 PM MESSAGE /ANSWERING MACHINE OF WORKOVER BOTH CALLS ON 4-8-97. SHUT IN TBG PRESSURE @ 7:30 WAS 0 PSI. MIRU MONTEZUMA WELL SERVICE RIG #15, NIPPLE DOWN WELL HEAD, NIPPLE UP BOPE. RELEASE PKR @ 5524'. POH & LAY DOWN 2 7/8" TBG & PKR. SIFN.
04-11-97	SICP @ 7:30 WAS 0. PICK-UP 5.5" CIBP. PICK-UP 2.375" TBG. RIH TO 5500', SET CIBP. POH PICK-UP 5.5" PKR. RIH TO 610' TO FIND CSG LEAK. POH TO 15' & TEST ANN. LEAKED. TEST CSG. OK. DIG OUT WELL HEAD & VALVE. TEST TO 1000 PSI. SIFN. (PERFS F/5611-5615' & 5618-5624). SWIFN & WEEKEND.
04-14-97	SICP @ 0 PSI. ASCERTAIN CSG PACKING LEAKING - REPAIR SAME, TEST CSG TO 1000# F/30 MIN. OK.
04-15-97	SICP @ 0 PSI, TEST BOP'S & CASING - RIH W/BIT & DC'S - DRILL CIBP - CHECK PBTD @ 5660' - PULL BIT ABOVE PERFS, SDFN.
04-16-97	POH LD WORKSTRING TBG, DC'S & BIT - PREP TO RUN PRODUCTION EQUIPMENT.SI & SDFN.
04-17-97	SICP @ 0 PSI. RIH W/5 1/2" GUIBERSON PKR & RELATED TBG. EQUIP. ON 54 JTS, 2 7/8" CMT LINED TBG. SI & SDFN.
04-18-97	FINISH RUNNING PRODUCTION TBG. - SET PKR & LAND TUBING @ 5521', CIRCULATE WELL W/PKR FLUID, TEST ANNULUS TO 1000 # - SI & SDFN.
04-19-97	CLEAN LOCATION - RD MONTEZUMA RIG #15, TIE IN FLOW LINE - TURN WELL TO PRODUCTION.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 18-W-32
9. API Well No.: 037-15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other INJECTOR/SIDETRACT	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BOTTOM HOLE LOCATION:

LATERAL #1 955' SOUTH & 1024' EAST F/SURFACE SPOT (ZONE 1a).

LATERAL #2 1247' NORTH & 1433' WEST F/SURFACE SPOT (ZONE 1a).

SEE ATTACHED:

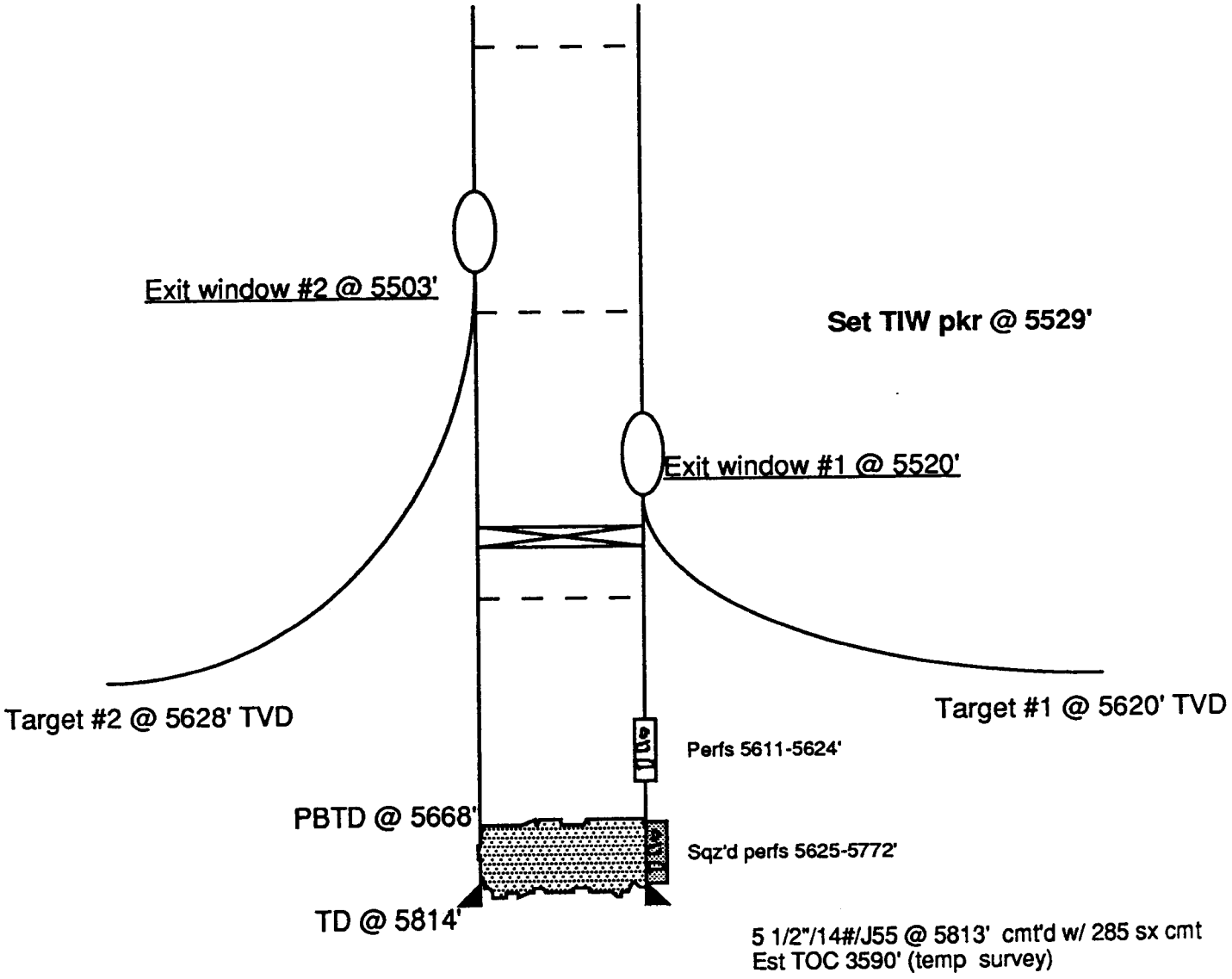
14. I hereby certify that the foregoing is true and correct
Signed Sue Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 10-29-97

(This space for Federal or State office use)
Approved by John R. Baza Title Associate Director Date 11/24/97
Conditions of approval, if any: Utah DOGM

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

Whipstock plan for Ratherford #18-32



Window	Btm-Top of window	Extension length	Curve radius	Bearing	Horiz Displ
1	5620-14	-	100	133	1400
2	5503-5497	17	125	311	1900

*The double spline is 2.42 ft long and the bottom of the whipstock, latch, and debris sub and shear sub are 8.68 ft long. These lengths must be added to the extension lengths to determine the entire whipstock assembly length.

Ratherford Unit Well #18-32
Horizontal Drilling Procedure

The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill several short radius horizontal laterals (1500-2000 feet each).

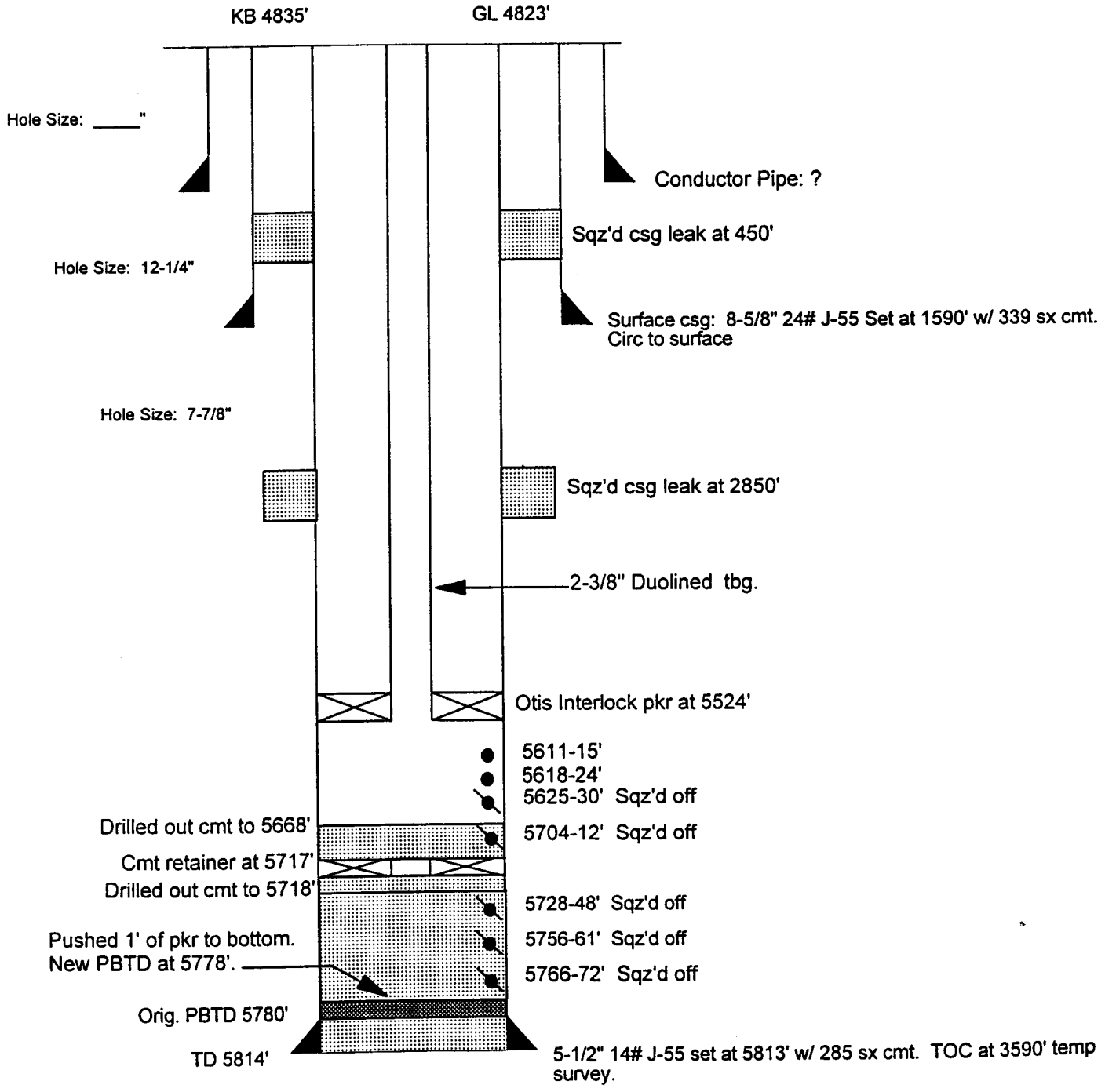
1. Prepare location and dig working pit.
2. MIRU WSU, reverse unit, and H2S equipment. Bullhead kill weight fluid down tubing.
3. ND wellhead and NU BOP's. Pressure test BOP's to working pressure.
4. Continue to POH with related equipment (tubing and rods for producers or tubing and packer for injectors).
5. RU wireline to run any logs desired and run gage ring for casing size and weight.
6. Set retrievable bridge plug on wireline and pressure test casing to 1000 psi.
7. RDMO WSU.
8. MIRU 24 hr. WSU. NU BOP's and pressure test with chart.
9. PU tubing, drilling collars, and drill pipe in derrick and run in hole. Then POH and stand back.
10. Run packer on wireline and set using GR/CCL log to correlate with. RD wireline.
11. PU drillpipe with UBHO sub in string and latch into packer to survey the hole and obtain orientation of keyway. POH w/gyro and drill string.
12. Orient whipstock on surface to desired bearing and RIH on drill pipe. Latch into packer. Shear starter mill bolt and make starter cut.
13. POH w/ starter mill and pick up window mill and watermelon mill and continue to mill window. Drill 1-2 ft of formation
14. POH w/ mills and PU curve building assembly and drill string with UBHO sub in string and RIH.
15. RU gyro to assist in time drilling and starting out of the casing window. POH w/ gyro when inclination dictates it must be pulled.
16. Finish drilling the curve using the MWD.
17. POH once curve is finished and PU lateral motor to drill the lateral using MWD.
18. Once lateral TD is reached, POH w/ directional equipment.
19. PU retrieving hook and RIH on drill pipe. Retrieve whipstock and PU new whipstock oriented for desired bearing to start in hole.
20. Repeat steps 12 through 19 for each subsequent lateral.

RATHERFORD UNIT # 18W-32

GREATER ANETH FIELD
2140' FNL & 1830' FEL
SEC 18-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-15736
PRISM 0043069

INJECTOR

Capacities:	bbl/ft	gal/ft	cuft/ft
2-7/8" 6.5#	.00579	.2431	.0325
5-1/2" 14#	.0244	1.0249	.1370
5-1/2" 15.5#	.0238	.9997	.1336
2-7/8x5.5"14# .0919	.0164	.6877	
2-7/8x5.5"15.5# .0886	.0158	.6625	



L. A. TUCKER 6-24-96 R.U. # 18W-32

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/03/97

API NO. ASSIGNED: 43-037-15736

WELL NAME: RATHERFORD 18-32 MULTI-LEG
OPERATOR: MOBIL EXPL & PROD INC (N7370)

PROPOSED LOCATION:
SWNE 18 - T41S - R24E (surface)
SURFACE: 2140-FNL-1830-FEL
BOTTOM: ~~1980-FNL-1980-FWL~~ Multi-lateral
SAN JUAN COUNTY
GREATER ANETH FIELD (365)

LEASE TYPE: IND
LEASE NUMBER: 14-20-603-353

PROPOSED PRODUCING FORMATION: DSCR

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

- ✓ Plat
- ✓ Bond: Federal [✓] State [] Fee []
  (Number ALREADY BONDED)
- N Potash (Y/N)
- N Oil shale (Y/N)
- ✓ Water permit
  (Number NAVAJO ALLOTMENT)
- N RDCC Review (Y/N)
  (Date: _____)

LOCATION AND SITING:

- ✓ R649-2-3. Unit: RATHERFORD
- ___ R649-3-2. General.
- ___ R649-3-3. Exception.
- ___ Drilling Unit.
  Board Cause no: _____
  Date: _____

COMMENTS: _____

STIPULATIONS: _____

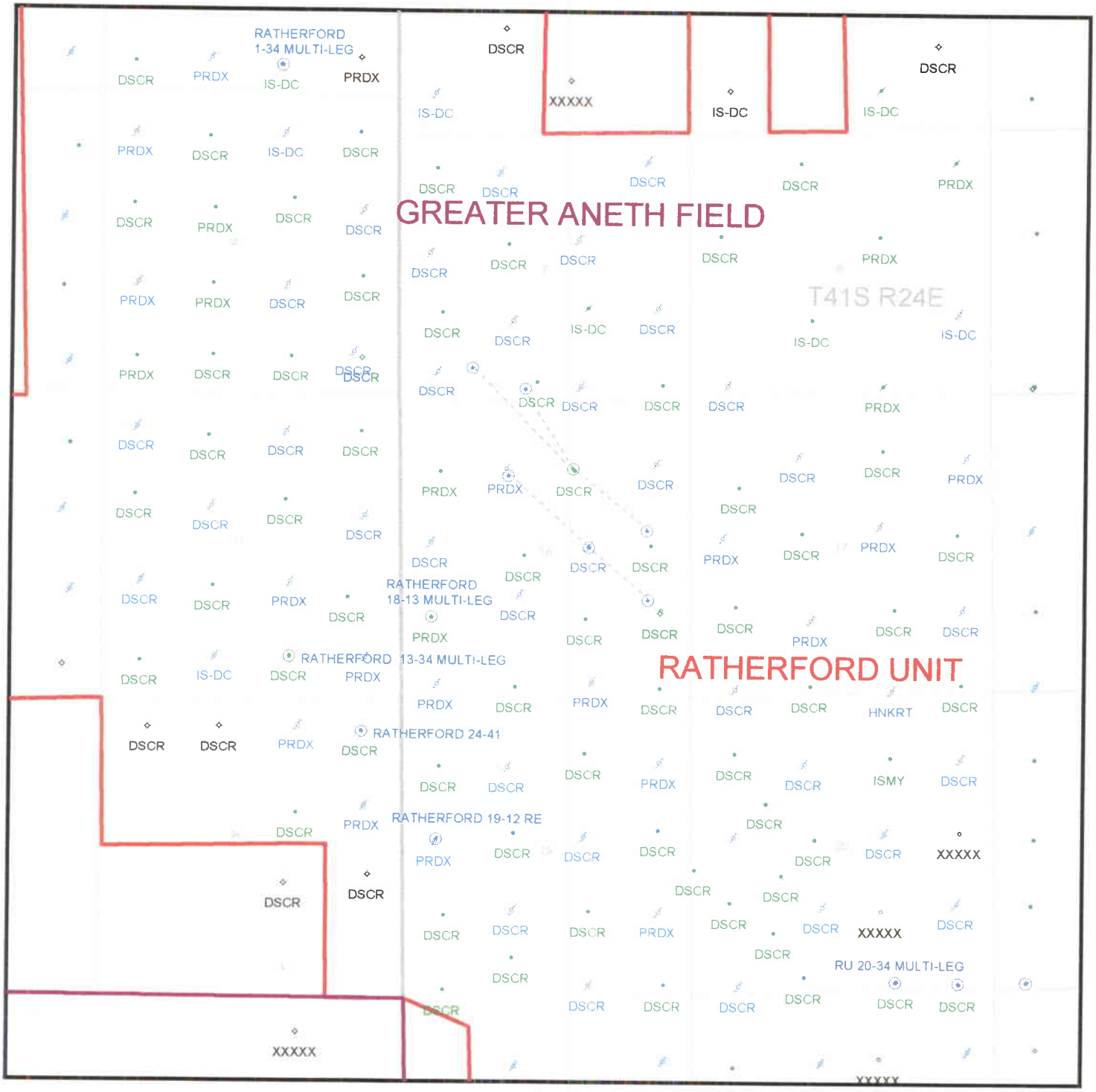
DIVISION OF OIL, GAS & MINING

OPERATOR: MOBIL (N7370)

FIELD: GREATER ANETH (365)

SEC. TWP. RNG.: SEC. 18, T41S, R24E

COUNTY: SAN JUAN UAC: R649-2-3 RATHERFORD UNIT



DATE PREPARED:
5-NOV-1997

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

November 21, 1997

Mobil Exploration & Producing U.S., Inc.
P.O. Box 633
Midland, Texas 79702

Re: Ratherford 18-W-32 Well (Re-entry), 2140' FNL, 1830' FEL, SW NE, Sec. 18, T. 41 S., R. 24 E., San Juan County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to re-enter and drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-15736.

Sincerely,

John R. Baza
Associate Director

lwp
Enclosures
cc: San Juan County Assessor
Bureau of Land Management, Moab District Office

Operator: Mobil Exploration & Producing U.S., Inc.

Well Name & Number: Ratherford 18-W-32 (Re-entry)

API Number: 43-037-15736

Lease: 14-20-603-353

Location: SW NE **Sec.** 18 **T.** 41 S. **R.** 24 E.

Conditions of Approval

1. General
   Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements
   Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jim Thompson at (801)538-5336.

   Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801)538-5334.

3. Reporting Requirements
   All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. In accordance with Utah Admin. R. 649-3-11, Directional Drilling, submittal of a complete angular deviation and directional survey report is required.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MOBIL E & P

Well Name: RATHERFORD UNIT 18-32

Api No. 43-037-15736

Section: 18 Township: 41S Range: 24E County: SAN JUAN

Drilling Contractor: BIG "A"

Rig # 25

SPUDDED:

Date: 11/23/97

Time:

How: ROTARY

Drilling will commence:

Reported by: BENNY BRIGGS

Telephone NO.:

Date: 11/24/97 Signed: JLT

ROCKY MOUNTAIN GEO-ENGINEERING
Well Logging • Consulting Geology • Coal Bed Methane Services • Computerized Logging Equipment & Software
ROCKY MOUNTAIN GEO-ENGINEERING CORP.
2450 INDUSTRIAL BLVD. • GRAND JUNCTION, CO 81505
(970) 243-3044 • (FAX) 241-1085

Wednesday, December 17, 1997

Division of Oil & Gas Mining
State of Utah
1636 W. North Temple
Salt Lake City, UT 84116

Re: Ratherford Unit #18-32 Legs 1 & 2
Sec. 18, T41S, R24E DRL
San Juan County, Utah
43037 15736

Dear Sirs:

Enclosed are the final computer colored logs and geology reports for the above referenced well.
IN LOG FILE
We appreciate the opportunity to be of service to you and look forward to working with you again in the near future.

If you have any questions regarding the enclosed data, please contact us.

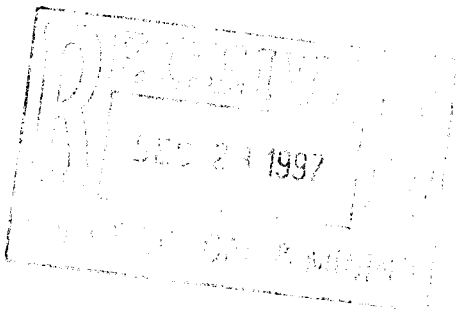
Sincerely,

Bill Nagel
Senior Geologist

BN/dn

Enc. 1 Final Computer Colored Log & 1 Geology Report

cc Letter Only; Dana Larson; Mobil E & P U.S., Inc.; Midland, TX



MOBIL

RATHERFORD UNIT #18-32
SE HORIZONTAL LATERAL LEG #1
1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 18, T41S, R24E
SAN JUAN, UTAH

GEOLOGY REPORT
by
DAVE MEADE / MARVIN ROANHORSE
ROCKY MOUNTAIN GEO-ENGINEERING CORP.
GRAND JUNCTION, COLORADO
(970) 243-3044

TABLE OF CONTENTS

WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #18-32 SE HORIZONTAL LATERAL LEG #1 IN 1-A POROSITY BENCH, DESERT CREEK
LOCATION:	SECTION 18, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB: 4835' GL: 4824'
SPUD DATE:	11/24/97
COMPLETION DATE:	11/29/97
DRILLING ENGINEER:	SIMMON BERRARA
WELLSITE GEOLOGY:	DAVE MEADE / MARVIN ROANHORSE
MUDLOGGING ENGINEERS:	DAVE MEADE / MARVIN ROANHORSE
CONTRACTOR: **TOOLPUSHER:**	BIG "A" RIG 25 J. DEES
HOLE SIZE:	4 3/4"
CASING RECORD:	KICK OFF POINT IN WINDOW AT 5521' MEASURED DEPTH
DRILLING MUD: **ENGINEER:** **MUD TYPE:**	M-I RONNIE WESTENBURG/DANNE BEASON FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	6985' MEASURED DEPTH; 5624' TVD
STATUS:	TOH & LAYING DOWN LATERAL ASSEMBLY - PREPARE TO RESET WHIPSTOCK FOR LATERAL LEG #2

DRILLING CHRONOLOGY
RATHERFORD UNIT #18-32
1-A SE HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	ACTIVITY
11/23/97	5513'	0'	MOVE RIG & RIG UP/SUNCO-NIPPLE UP & PRESSURE TEST-RIG UP WIRELINE & RUN PACKER
11/24/97	5513'	0'	NIPPLE UP BOP,PRES. TEST BOP & RAMS-PICK UP & MAKE UP LATCH ASSEMBLY,P.U. DRLG COLLARS & DRLG PIPE,P.U. PIPE & TIH- WASH THROUGH PIPE-P.U. 1 JNT & LATCH INTO PACKER-R.U. GYRO DATA & RUN GYRO-RIG DOWN GYRO-TOOH-LAY DOWN MULESHOE-P.U. WHIPSTOCK & ORIENT-TIH W/WHIPSTOCK-LATCH INTO MULESHOE & SHEAR @ 15K-SWIVEL UP & BREAK CIRC.,MILL WINDOW FROM 5513'-5515'-CIRC. BTMS UP
11/25/97	5513'	8'	L.D. 2 JNTS D.P..POOH-L.D. STARTER MILL , P.U. & MAKE UP WATERMELON MILL-REPLACE SHUTTLE VALVE FOR HYDROMATIC-TIH W/WINDOW MILL& WATERMELON MILL-P.U. SWIVEL & BREAK CIRC.-MILL CASING FROM 5513'-5521'-PUMP 10N BBL SWEEP & CIRC. OUT-TOOH,L.D. MILLS-P.U. CURVE BTM HOLE ASSEMBLY & BIT #1(RR)-ORIENT & TEST
11/26/97	5521'	144'	ORIENT & TEST CURVE BHA-TIH-REPAIR FULE FILTER GASKET ON #1 PUMP & TIGHTEN FAN BELTS-TIH-R.U. & RUN GYRO-TIME DRLG @ 2 MIN/IN 5521'-5525'-DIR DRLG & WIRELINE SURVEYS 5525'-5553'- PULL GYRO & R.D.GYRO DATA-DIR DRLG CURVE & SURVEYS
11/27/97	5665'	107'	DIR DRLG & SURVEYS TO 5681' TD OF CURVE-PUMP 5 BBL HIGH VIS SWEEP & CIR OUT SMPLS-TOOH-L.D. CURVE ASSEMBLY-P.U. PH6 TUBING-TIH-P.U. 2 JNTS AOH & SWIVEL UP,BREAK CIRC.-DIR DRLG & SURVEY
11/28/97	5772'	896'	DIR DRLG & SURVEY
11/29/97	6668'	317'	DIR DRLG & SURVEYS TO TD OF 6985'- CIR OUT SPLS & SWEEP-PUMP 10 BBLS BRINE WATER-TOH-LAY DOWN LATERAL ASSEMBLY-PICK UP RETRIEVING HOOK-TIH-WORK STUCK WHIPSTOCK-TOH-PICK UP JARS-TIH

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #18-32 SE 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
11/23/97	MOVE RIG	0'			
11/24/97	5513'	0'			
11/25/97	5513'	8'			
11/26/97	5521'	114'			
11/27/97	5665'	107'			
11/28/97	5772'	896'			
11/29/97	6682	317'			
	6985	TD			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 SE 1-A HORIZONTAL LATERAL LEG #1

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 RR	4 3/4"	STC	MF3P	5521'/ 5681'	160'	16.5	9.7
#2	4 3/4"	HTC	STR-20	5681'/ 6985'	1304'	36.5	35.7

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. 18-32 LEG 1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5500	0.97	50.6	5499.68	23.99 N	10.05 E	-9.01	0
5514	0.83	58.18	5513.68	24.12 N	10.23 E	-8.97	1.31
5521	4.2	125.85	5520.67	24 N	10.48 E	-8.7	56.57
5531	9.6	132.32	5530.6	23.22 N	11.39 E	-7.5	54.47
5541	15.4	134.1	5540.35	21.73 N	12.97 E	-5.34	58.12
5551	21.1	125.7	5549.85	19.76 N	15.38 E	-2.22	62.64
5561	26.7	120.1	5558.99	17.58 N	18.79 E	1.76	60.36
5571	32.4	115.9	5567.69	15.28 N	23.15 E	6.51	60.62
5581	38.3	114.9	5575.84	12.8 N	28.37 E	12.02	59.28
5591	43.9	115.7	5583.37	9.99 N	34.31 E	18.28	56.25
5601	49.3	117	5590.24	6.76 N	40.82 E	25.24	54.82
5611	55.2	118.5	5596.36	3.08 N	47.81 E	32.87	60.18
5621	60.6	120.5	5601.67	1.09 S	55.18 E	41.1	56.59
5631	64.8	122.8	5606.26	5.76 S	62.74 E	49.81	46.71
5641	68.3	126.2	5610.24	10.95 S	70.3 E	58.88	46.88
5651	72.6	129.4	5613.58	16.73 S	77.74 E	68.26	52.51
5657	76.1	129.7	5615.2	20.41 S	82.19 E	74.03	58.53
5681	87.2	127.2	5618.68	35.14 S	100.76 E	97.66	47.38
5706	87.6	131.3	5619.82	50.94 S	120.1 E	122.58	16.46
5737	89.8	134.6	5620.52	72.06 S	142.78 E	153.56	12.79
5768	89.9	135.8	5620.6	94.05 S	164.62 E	184.54	3.88
5799	88.4	136.5	5621.06	116.4 S	186.09 E	215.49	5.34
5830	86.1	137.2	5622.55	138.99 S	207.27 E	246.38	7.75
5863	86.2	135.8	5624.76	162.88 S	229.93 E	279.24	4.24
5894	86.4	133.9	5626.77	184.69 S	251.86 E	310.16	6.15
5926	88.9	133.3	5628.08	206.74 S	275.02 E	342.13	8.03
5958	89.1	134	5628.64	228.82 S	298.17 E	374.12	2.27
5990	89.7	133.7	5628.97	250.99 S	321.24 E	406.12	2.1
6021	90.4	133.1	5628.94	272.29 S	343.77 E	437.12	2.97
6053	90.4	132.6	5628.72	294.05 S	367.23 E	469.11	1.56
6084	90.5	132.6	5628.48	315.04 S	390.04 E	500.11	0.32
6116	90.4	132.6	5628.23	336.69 S	413.6 E	532.11	0.31
6148	89.8	132.8	5628.17	358.4 S	437.12 E	564.11	1.98
6179	91.2	133.1	5627.9	379.52 S	459.8 E	595.11	4.62
6211	90.8	133	5627.34	401.36 S	483.18 E	627.1	1.29
6242	90.4	132.1	5627.02	422.32 S	506.02 E	658.1	3.18
6274	90.7	132.1	5626.71	443.77 S	529.76 E	690.1	0.94
6306	92.7	132.6	5625.76	465.32 S	553.4 E	722.08	6.44

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. 18-32 LEG 1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6338	93.4	133	5624.06	487.03 S	576.85 E	754.03	2.52
6370	93.2	132.8	5622.22	508.78 S	600.25 E	785.98	0.88
6401	90.8	133.5	5621.13	529.96 S	622.85 E	816.96	8.06
6433	88.2	133.3	5621.41	551.95 S	646.1 E	848.95	8.15
6464	88.3	133.1	5622.36	573.16 S	668.68 E	879.94	0.72
6496	89.7	133.9	5622.92	595.18 S	691.89 E	911.93	5.04
6528	88.9	133.3	5623.31	617.25 S	715.06 E	943.93	3.12
6560	88.9	132.8	5623.92	639.09 S	738.44 E	975.92	1.56
6592	88.2	131.6	5624.73	660.58 S	762.14 E	1007.91	4.34
6623	88.4	131.7	5625.65	681.17 S	785.29 E	1038.88	0.72
6655	89.6	130.7	5626.21	702.24 S	809.37 E	1070.86	4.88
6687	90.2	131	5626.27	723.17 S	833.57 E	1102.84	2.1
6719	91.6	132.3	5625.76	744.44 S	857.48 E	1134.82	5.97
6750	93.4	132.1	5624.41	765.24 S	880.42 E	1165.79	5.84
6782	94.7	132.8	5622.15	786.78 S	903.97 E	1197.71	4.61
6813	93	133.5	5620.07	807.93 S	926.54 E	1228.64	5.93
6845	89.3	134.2	5619.43	830.09 S	949.61 E	1260.62	11.77
6877	88	134.9	5620.18	852.54 S	972.4 E	1292.6	4.61
6909	87.5	135.3	5621.44	875.19 S	994.97 E	1324.55	2
6950	88.4	135.6	5622.9	904.39 S	1023.72 E	1365.49	2.31
6985	88.4	135.6	5623.88	929.38 S	1048.2 E	1400.44	0

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 SE 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	pH	WL	CK	CHL	CA	SD	OIL	WTR
11/24/97	RIG UP	8.4	26	--	--	--	8.0	N/C	--	4000	408	--	0%	100%
11/25/97	5513'	8.4	26	--	--	--	11.6	N/C	--	2400	400	--	0%	100%
11/26/97	5521'	8.4	26	--	--	--	12	N/C	--	2400	80	--	0%	100%
11/27/97	5681'	8.4	26	--	--	--	12	N/C	--	2400	40	--	0%	100%
11/28/97	5877'	8.4	26	--	--	--	11	N/C	--	7000	660	--	0%	100%
11/29/97	6882'	8.4	26	--	--	--	12	N/C	--	11000	1200	--	0%	100%

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 SE 1-A HORIZONTAL LATERAL LEG #1

DEPTH	LITHOLOGY

5520.00 5530.00 "LS crm-tan-ltbrn,crpxl-micxl,rthy-chk,occ dns,sl chty-rr trsn-brn CHT frag,v sl anhy-v rr ANHY xl,occ dol-tr brn-gybrn crpxl-micxl lmy arg tt DOL incl-lams w/NFSOC,tt,NFSOC"

5530.00 5540.00 "LS & DOL AA,occ mot,tt,NFSOC,mrly ip,occ grdg to & thn intbds SH dkgy-gy,sbblky-plty,frm-brit,calc-dol,v sl carb,mica-sl slty,scat trnsl-bf CHT frag"

5540.00 5550.00 "LS wh-crm-tan,crpxl-micxl,rthy-chk,occ dns,sl anhy,tt,NFSOC,v rr DOL AA,tr SH AA,incr CHT-pred smky gy-occ trnsl"

5550.00 5560.00 "LS m-ltgybrn,ltgy,brn-dkbrnblk,crpxl,micxl-vfxl,rthy-shy-arg ip,tr blk-dkbrnblk shy strk,occ sl slty,scat wh chky prtgs,tr CHT AA,sl dol,NFSOC"

5560.00 5570.00 "SH dkbrn-brnblk-occ blk,plty-sbsplty,frm,calc-lmy,occ grdg to shy LS,v sl slty ip,w/LS AA,bcmg incr lt-mgybrn,shy-arg,NFSOC"

5570.00 5580.00 "LS ltgybrn-ltgy,occ wh,tan-brn,micxl-vfxl,crpxl,occ micsuc-suc,pred rthy-slty/occ v f gr sdy strk,chky-sl anhy,tr dns tt crpxl frag,occ grdg to lmy SLTST,NFSOC"

5580.00 5590.00 "LS AA,micxl-vfxl,crpxl,occ micsuc-suc,pred rthy-slty/occ sdy strk AA,chky-sl anhy,tr dns tt crpxl frag,occ grdg to lmy SLTST,NFSOC"

5590.00 5600.00 "LS AA,rthy-sl ahy-arg ip,occ slty/occ v f gr sdy strk,chky-sl anhy,sl incr dns sl fos tt crpxl frag,occ grdg to lmy SLTST,NFSOC"

5600.00 5610.00 "DOL brn-ltbrn,micxl-crpxl,occ sl micsuc,rthy,sl chky,v sl shy ip,pred dns,tt-tr intxl/vrr pp agal POR,g even mod bri-bri yel-rr dull orng mnrl FLOR,fr brn STN,fr-g slow stmg mlky CUT"

5610.00 5620.00 "LS AA,chky,vrr wh-trnsl CHT frag & blk Sh lam,NFSOC/incr scat DOL AA,POR AA,fr-g even mod bri-dull yel FLOR,STN-CUT AA"

5620.00 5630.00 "SH blk-dkbrn-dkbrnblk,sbblky-sbplty-plty,frm-sft,occ brit,carb,calc-sl lmy,rr pp mica,sooty"

5630.00 5640.00 "SH AA,sbblky-blky-sbplty,sl splty,frm-sft,carb,calc-sl lmy,rr pp mica/tr scat LS AA,NFSOC & rr scat DOl frag AA,FLOR-STN-CUT AA"

5640.00 5650.00 "SH blk-dkbrn-dkbrnblk,sbblky-sbplty-plty,frm-sft,occ brit,carb,calc-sl lmy,rr pp mica,sooty,w/LS AA,POR AA,decr FLOR-STN CUT AA"

5650.00 5660.00 "LS brn/ltgy strks,occ tan incl,ltgybrn-wh,crpxl-occ micxl,sl-occ v chky,sl anhy/rr xln ANHY incl,occ shy-sl arg ip,v sl chty/vrr ltbrn-brn CHT incl,dns,tt-rr intxl POR,NFSOC"

5660.00 5670.00 "LS AA,sl chky/occ ltgybrn-ltgy chky prtgs-frag,rr xln calc frac fl,dns,tt-vrr intxl & frac POR,rr dull orng mnrl-vrr spty dull yel FLOR,fr-tr brn STN,v p dif CUT"

DEPTH	LITHOLOGY

5670.00 5681.00 "LS brn,occ ltgy-gybrn,tan,wh,crpxl,occ micxl-vfxl,dns PCKST,vrr GRNST frag/tr chky-anhy POR fl,tr chky plty prtgs,sl anhy/rr xln ANHY incl,sl arg ip,v sl chty,tt-tr intxl POR,n-vrr scat mod br-spty bri yel FLOR,fr ltbrn-brn STN,fr-g slow stmg mlky CUT"

5681.00 5690.00 "LS AA,v rr POR-FLOR-STN-CUT AA,sl slty,rr tt brn lmy DOL PKST frag & tr blk SH CVGS"

5690.00 5710.00 "LS mbrngy-gy,ltgy,occ ltbrngy,rr brn,micxl,suc-micsuc-gran ip,occ crpxl,rthy-slty/rr sdy strk,sl chky-arg ip,occ grdg to lmy SLTST,v sl dol-anhy,tt-tr intxl/tr chky POR fl,NFSOC"

5710.00 5720.00 "LS ltgy-wh/occ blk-dkbrn strks-pp incl,occ ltgybrn,ltbbrn,tan,crpxl-micxl,sl gran-suc ip,pred v arg-chky-sl anhy,occ slty/tr v f gr qtzc incl,sl dol/tr DOL rich cmt,tt-rr intxl POR/chky-anhy POR fl,NFSOC"

5720.00 5730.00 "LS bcmg pred wh,ltgy-ltgybrn AA,decr arg/incr slty strks/sl incr trnsl-clr v f gr qtzc incl,tt-rr intxl POR/chky-anhy POR fl,NFSOC"

5730.00 5740.00 "LS ltgy-wh/occ blk-dkbrn strk-pp incl,occ ltgybrn,ltbrn,tan,crpxl-micxl,sl gran-suc ip,pred arg-chky-sl anhy prtgs,occ slty/tr qtzc incl,sl dol/tr DOL rich cmt,tt-rr intxl POR/chky-anhy POR fl,NFSOC"

5740.00 5750.00 "LS AA,POR AA,NFSOC"

5750.00 5760.00 "LS AA,pred arg-chky-sl anhy PCKST frag-prtgs,occ slty/tr qtzc incl,v sl dol,tt-rr intxl POR/chky-anhy POR fl,NFSOC"

5760.00 5770.00 "LS ltgy-wh,occ lt-mgybrn,tr brn,crpxl,micxl-vfxl,occ micsuc-sl gran,pred chky-arg-sl anhy plty PCKST frag,occ slty/tr qrtzc incl AA,tt,NFSOC,tr scat brn micxl-micsuc DOL frag,NFSOC,& blk sl calc carb SH cvgs"

5770.00 5780.00 "LS AA,POR AA,NFSOC"

5780.00 5790.00 "LS ltgy,ltgybrn,wh/occ dkgy-blk-dkbrn strk-pp incl,occ ltbrn,micxl-crpxl,sl gran-suc ip,slty,tr v f gr trnsl-clr qtzc incl,scat arg-chky-sl anhy prtgs-frag,sl dol/tr DOL rich cmt,tt-rr intxl POR/chky-anhy POR fl,NFSOC"

5790.00 5800.00 "LS AA/sl decr chky-arg-sl anhy plty prtgs-frag,tt,n-tr intxl POR,NFSOC"

5800.00 5810.00 "LS tan-ltbrn,ltgy-crm-wh,occ ltgybrn,crpxl-micxl,occ sl gran-micsuc,pred dns-chky plty arg PCKST,v sl dol,rr xln ANHy incl-frag,vrr trnsl CHT,tt-tr intxl POR/chky-anhy POR fl,NFSOC"
5810.00 5820.00 "LS AA,decr chky-arg sl slty plty prtgs-frag,POR AA,NFSOC"

5820.00 5830.00 "LS tan-crm,occ wh-brn,crpxl-micxl,v rr vfxl,pred dns-occ chky-v sl fos PKST,w/v rr scat GRNST,occ sl anhy,sl slty,tt-v rr intxl POR,n-v rr dull yel FLOR,n-v rr STN,p slow CUT,rr v lmy SLTST frag,v rr trnsl-bf CHT frag,rr brn crpxl dns DOL frag,rr SH CVGS"

5830.00 5850.00 "LS tan-brn,occ crm,crpxl-vfxl,gran-micsuc-suc ip,pred ooc-oom GRNST,w/thn sl fos-v sl ool PKST,occ DOL cmt-v rr DOL frag AA,v rr CHT frag AA,tt-g intxl-ool POR,mod f dull-bri yel FLOR,n-spty ltbrn STN,v rr blk dd o STN,n-fr slow-mod fast CUT"

5850.00 5870.00 "LS AA,decr DOL frag,tr SH CVGS,occ sl ooc-oom,pred GRNST,fr-g intxl-tr ool POR,FLOR-STN-CUT AA,"

DEPTH		LITHOLOGY

5870.00 5890.00 "LS AA,pred sl ooc-oom GRNST,scat sl fos-ool PKST,occ DOL rich cmt,sl anhy-rr ANHY xl-incl-v rr POR fl,fr-occ g intxl-ool POR,fr dull-bri yel FLOR,tr-fr ltbrn STN,rr blk dd o STN,fr-g slow-fast stmg CUT"

5890.00 5910.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,scat sl ool-fos dns PKST,occ DOL rich cmt,rr ANHY xl-incl-POR fl,v rr trns CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr brn-tr blk STN,fr-g mod fast stmg CUT"

5910.00 5930.00 "LS AA,pred ooc-oom GRNST,tr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-tr blk STN,fr-g mod fast-fast stmg CUT,incr trnsl-clr CHT frag"

5930.00 5950.00 "LS tan-ltbrn,occ brn,rr wh-crm,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,scat sl ool-fos dns occ plty PKST,occ DOL rich cmt,rr ANHY xl-incl-POR fl,rr trns CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr-g brn-tr blk STN,fr-g mod fast stmg CUT"

5950.00 5970.00 "LS pred ooc-oom GRNST AA,v rr scat tan-ltbrn sl ool-v sl fos PKST,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,tr-fr ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

5970.00 5990.00 "LS AA,v sl incr PKST,v rr-rr trnsl-clr CHT frag,sl decr POR,FLOR-STN-CUT AA"

5990.00 6000.00 "LS AA,decr PKST,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6000.00 6020.00 "LS tan,occ brn-rr crm-wh,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,scat thn sl ool anhy tt PKST,DOL rich cmt ip,scat ANHY xl-incl-rr POR fl,v rr trnsl-clr CHT frag,fr-g intxl-ool POR,fr-g bri-dull yel FLOR,fr-g brn STN,tr blk dd o STN,fr-g fast stmg CUT"

6020.00 6030.00 "LS AA,POR-FLOR-STN-CUT AA"

6030.00 6050.00 "LS AA,fr-g-v g POR-FLOR-STN CUT AA"

6050.00 6070.00 "LS tan,occ brn-rr crm-wh,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,scat thn sl ool anhy tt PKST,DOL rich cmt ip,tr ANHY xl-incl-occ POR fl,v rr trnsl-clr CHT frag,fr-g intxl-ool POR,fr-g bri-dull yel FLOR,fr-g brn STN,tr blk dd o STN,fr-g fast stmg CUT"

6069.00 6090.00 "LS AA,decr ANHY xl-POR FL,POR-FLOR-STN-CUT AA"

6090.00 6110.00 "LS AA,occ suc,pred ooc-oom GRNST,fr-g intxl-ool POR,FLOR-STN-CUT AA"

6110.00 6130.00 "LS tan,occ brn-mbrn,micxl-vfxl,gran-suc,occ crpxl,pred ooc-oom GRNST w/scat dns sl ool anhy PKST incl,sl DOL rich cmt,occ ANHY xl-POR fl,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,g brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6130.00 6140.00 "LS AA,sl decr blk STN,POR-FLOR-CUT AA"

6140.00 6160.00 "LS AA,tr ANHY xl-incl-occ POR fl,v rr sl ool-anhy PKST,fr-g POR-STN-FLOR-CUT AA"

6160.00 6180.00 "LS tan,occ brn-mbrn,micxl-vfxl,gran-suc,occ crpxl,pred ooc-oom GRNST w/scat dns sl ool anhy PKST incl,sl DOL rich cmt,occ ANHY xl-POR fl,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,g brn STN,tr-fr blk dd o STN,fr-g mod fast-fast stmg CUT

DEPTH	LITHOLOGY

6180.00 6200.00 "LS AA,sl incr trnsl clr CHT,POR-FLOR-STN-CUT AA"

6200.00 6220.00 "LS tan-brn,occ mbrn,rr crm,micxl-vfxl,occ crpxl,gran-misuc,pred ooc-oom GRNST w/scat dns anhy-sl chty ool crpxl-micxl PKST,rr trnsl CHT frag-tr ANHY xl-POR fl,fr-g ool-intxl POR,fr-g dull-bri yel FLOR,g brn-tr blk STN,fr-g mod fast-fast stmg CUT"

6220.00 6240.00 "LS AA,pred GRNST-sl ooc-oom,decr PKST,g intxl-fr ool POR,FLOR-STN-CUT AA"

6240.00 6260.00 "LS tan-brn,occ mbrn,rr crm,micxl-vfxl,gran-suc,pred GRNST-sl ooc-oom,w/rr dns anhy-sl chty sl ool crpxl-micxl PKST,v rr trnsl CHT frag-tr ANHY xl-POR fl,occ DOL rich cmt,g intxl-fr ool POR,fr-g dull-bri yel FLOR,g brn-tr blk STN,fr-g mod fast stmg CUT"

6260.00 6280.00 "LS AA,pred GRNST-sl ooc-oom,decr PKST,scat ANHY xl-POR fl,g intxl-fr ool POR,FLOR-STN-CUT AA"

6280.00 6300.00 "LS AA,decr ANHY-CHT,POR-FLOR-STN-CUT AA"

6300.00 6320.00 "LS tan-brn,occ mbrn,rr crm,micxl-vfxl,gran-suc,pred GRNST-sl ooc-oom,w/tr dns anhy-sl chty sl ool crpxl-micxl PKST,v rr trnsl CHT frag-tr ANHY xl-POR fl,occ DOL rich cmt,g intxl-fr ool POR,fr-g dull-bri yel FLOR,g brn-tr blk STN,fr mod fast stmg CUT"

6320.00 6340.00 "LS AA,v sl slty ip,occ grdg to v lmy SLTST,v sl incr wh-crm plty PKST,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr brn STN-tr blk dd o STN,fr-g mod fast-tr fast stmg CUT"

6340.00 6370.00 "LS tan-brn,occ mbrn,crm,micxl-vfxl-gran,crpxl-micsuc,oom-sl ooc GRNST,w/tr scat dns anhy-sl chty sl ool PKST,v rr trnsl-brn CHT frag,tr ANHY xl-POR fl,dol/DOL rich cmt,g-fr oom-intxl-ool POR,g dull-bri yel FLOR,g brn-tr blk STN,g fast stmg mlky CUT"

6370.00 6400.00 "LS tan-crm-ltgybrn,occ brn,vfxl-micxl-granl,crpxl,ooc-oom GRNST occ grdg to PCKST,sl incr scat-intbd dns chky-sl anhy PCKST,rr xln ANHY incl-frag/tr POR fl,vrr clr CHT frag,sl dol/tr DOL cmt fr-ooc-oom/tr intxl POR,g even dull-mod bri/scat bri yel FLOR,fr ltbrn/tr scat brn & blk pp dd o STN,g mod fast dif/tr slow stmg mlky CUT"

6400.00 6420.00 "LS AA,pred oom-ooc-sl ool GRNST occ grdg to PCKST ip,tr scat-intbd dns chky-sl anhy sl ool PCKST,tr scat wh-trnsl ANHY frag-incl/POR fl,rr scat trnsl-occ wh sil-chty incl/rr trnsl CHT frag,fr oom-ooc/tr intxl POR,FLOR-STN AA,g slow dif/tr slow stmg CUT"

6420.00 6460.00 "LS tan-ltbrn/occ crm-wh prtgs-incl,vfxl-gran-micxl,occ crpxl,ooc-oom-sl ool sl chky GRNST/tr dns scat-occ intbd sl ool chky PCKST,sl anhy/tr xln ANHY incl-frag,vrr CHT frag AA,dol/tr DOL rich cmt,fr-g ooc-oom/tr intxl POR,g even dull-mod bri/tr scat bri yel FLOR,fr-g ltbrn/tr scat brn & blk pp dd o STN,g mod fast-fast stmg-sl blooming mlky CUT"

6460.00 6480.00 "LS tan-crm,ltbrn,occ brn,vfxl-gran-micxl,sl incr crpxl,occ micsuc ip,pred GRNST AA,sl incr scat-intbd dns chky PCKST,anhy/tr xln ANHY incl-frag,tr chky-anhy POR fl,rr CHT frag & pp sil-chty incl,sl dol,fr-g oom-ooc/tr intxl POR,sl decr FLOR AA,STN-CUT AA"

6480.00 6500.00 "LS AA,pred GRNST AA,tr scat-intbd dns chky sl ool PCKST,tr pp wh-crm sil-chty incl/rr scat trnsl CHT frag,anhy/tr scat-occ intbd xln ANHY & POR fl,g-fr ooc-oom /tr intxl POR,g even dull/scat mod bri-bri yel FLOR,fr-g ltbrn/scat brn & pp blk STN,CUT AA "

DEPTH	LITHOLOGY

6500.00 6530.00 "LS AA,pred GRNST AA,sl decr PKST,scat ANHY xl-POR fl,tr pp wh-crm sil-chty incl,sl chky-anhy/tr xln ANHY frag,g intxl-fr ool POR/decr POR fl,sl incr FLOR-STN AA,g-fr sl blooming/mod fast-fast stmg mlky CUT"

6530.00 6560.00 "LS tan-crm,ltbrn,occ brn,vfxl-gran-micxl,crpxl,occ micsuc ip,pred GRNST AA,sl incr scat-intbd dns chky PCKST,anhy/tr xln ANHY incl-frag,tr chky-anhy POR fl,tr wh-tan CHT frag & pp sil-chty incl,sl dol,fr-g oom-ooc/tr intxl POR,FLOR-STN-CUT AA"

6560.00 6600.00 "LS AA,pred GRNST AA,sl decr PKST,tr CHT frag AA/pp wh-crm sil-chty incl,sl chky-anhy/tr xln ANHY frag,v sl dol,g-fr oom-ooc-tr ool POR/decr POR fl,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/scat brn & pp blk STN,g fast blooming-stmg mlky CUT"

6600.00 6640.00 "LS tan-ltbrn,occ brn,tr crm-wh incl-strk,vfxl-gran-micxl,crpxl,ooc-oom-sl ool GRNST,scat-intbd dns chky sl ool PCKST,anhy/tr xln ANHY frag & POR fl,decr tan-wh CHT incl-frag,sl dol/rr DOL cmt,g-fr ooc-oom/tr intxl POR,g even dull-mod bri/scat bri yel FLOR,fr-g ltbrn/incr brn & pp blk dd o STN,g-fr blooming-fast stmg mlky CUT"

6640.00 6680.00 "LS tan-ltbrn/occ crm-wh strk-incl,occ brn,vfxl-gran-micxl,crpxl-sl micsuc,ooc-oom GRNST,scat dns sl ool PCKST,sl chky-anhy/tr xln ANHY frag-incl & POR fl,tr tan-trnsl CHT frag-incl,g ooc-oom/occ intxl POR,g even dull-mod bri/scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,g-fr dif/tr slow stmg mlky CUT"

6680.00 6700.00 "LS AA,pred ooc-oom-sl ool GRNST,decr PKST AA,sl-occ v chky/tr scat xln ANHY & POR fl,g-fr ooc-oom/tr intxl POR,FLOR-STN AA,g mod fast blooming-fast stmg mlky CUT"

6700.00 6740.00 "LS AA,vfxl-gran,micxl-crpxl,occ micsuc ip,pred ooc-oom-sl ool GRNST,tr scat PCKST AA,sl-occ v chky/tr scat xln ANHY & POR fl,tr bf-tan-rr wh-trnsl CHT incl-frag,v sl dol,g-fr ooc-oom/tr intxl POR,FLOR-STN AA,g mod fast blooming-fast stmg mlky CUT"

6740.00 6760.00 "LS AA,pred ooc-oom GRNST,v sl incr ool-dns PKST AA,tr scat xln ANHY & POR fl,fr ool-intxl POR,FLOR-STN AA,g mod fast-fast stmg mlky CUT"

6760.00 6810.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-suc,pred sl ooc-oom GRNST,w/scat thn sl ool dns PKST,sl anhy-tr ANHY xl-POR fl,sl dol-DOL rich cmt,v rr trnsl CHT frag,fr-g intxl-fr ool POR,fr-g dull-tr bri yel FLOR,fr ltbrn-tr blk STN,fr-g mod fast-fast stmg CUT"

6810.00 6830.00 "LS AA,w/incr crpxl dns sl ool anhy PKST incl,tr trnsl-smky CHT frag,tt-g intxl-fr ool POR,fr-g dull-tr bri yel FLOR,fr ltbrn-brn STN-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6830.00 6850.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-suc,pred intbd sl ooc-oom GRNST & sl ool dns PKST,sl anhy-tr ANHY xl-POR fl,sl dol-DOL rich cmt,v rr trnsl CHT frag,tt-g intxl-fr ool POR,fr-g dull-tr bri yel FLOR,tr-fr ltbrn-rr-tr blk STN,fr-g mod fast-fast stmg CUT"

6850.00 6870.00 "LS AA,pred sl ooc-oom GRNST w/tr scat PKST AA,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-rr brn STN-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6870.00 6890.00 "LS AA,incr PKST AA,rr-tr scat trnsl-bf CHT FRAG,sl decr POR,FLOR-STN-CUT AA"

6890.00 6920.00 "LS tan-ltbrn,occ crm-brn,crpxl-vfxl,gran-micsuc ip,occ sl suc,pred sl ooc-oom GRNST & thn intbd sl ool dns PKST,sl anhy-rr ANHY xl-POR fl,tt-g intxl-tr ool POR,fr dull-tr bri yel FLOR,fr ltbrn-tr blk STN,fr-g mod fast-fast stmg CUT"

DEPTH	LITHOLOGY

6920.00 6950.00 "LS AA,pred sl ooc-oom GRNST,decr scat PKST,decr ANHY,v rr scat trnsl CHT frag,fr-g intxl-fr ool POR,fr dull-tr bri yel FLOR,fr ltbrn-brn STN-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6950.00 6985.00 "LS tan-ltbrn,occ crm,brn ip,micxl-vfxl,gran-micsuc ip,occ sl suc,pred sl ooc-oom GRNST & thn intbd sl ool dns crpxl PKST,sl anhy-rr ANHY xl-POR fl,v rr clr CHT,tr-g intxl-tr ool POR,fr dull-tr bri yel FLOR,fr ltbrn-tr blk STN,fr-g mod fast-fast stmg CUT"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 SE 1-A HORIZONTAL LATERAL LEG #1

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4835'
LOWER ISMAY		5558'	5556'	-721'
GOTHIC SHALE		5616'	5599'	-764'
DESERT CREEK		5650'	5616'	-781'
DC 1-A ZONE		5662'	5620'	-785'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S. Inc., Ratherford Unit #18-32 Southeast Horizontal Lateral Leg #1 was a re-entry of the Mobil Ratherford Unit #18-32 located in Section 18, T41S, R24E. The drilling of the southwest Lateral Leg #1 began on November 24, 1997. The curve section was completed on November 27, 1997 at a measured depth of 5681', 5618' true vertical depth, 4 feet above the 1-A porosity zone, in the tight, slightly silty, limestones of the upper Desert transition zone. The lateral section was begun just above the 1-A porosity zone on November 27, 1997. The lateral reached a measured depth of 6985', true vertical depth of 5624', with a horizontal displacement of 1400' and true vertical plane of 135.6 degrees, on November 29, 1997 in the upper Desert Creek 1-A zone. There were no significant problems encountered while drilling this lateral, with the lateral flowing minor amounts of water beginning almost as soon as the 1-A zone was penetrated. The lateral used fresh water with polymer sweeps as the drilling fluid. The background gases noted on the accompanying mud log were rather erratic due to the minor water flows encountered through out the lateral section. The samples had fair to good oil shows through out the 1-A zone drilled.

The primary objective of the Ratherford Unit #18-32 Leg 2 horizontal lateral was the effective porosity and reservoir properties in the 1-A zone of the Desert Creek Member of the Upper Paradox Formation. The very basal portion of the Upper Ismay, the Lower Ismay, the Gothic Shale and the transition zone at the top of the Desert Creek were penetrated while drilling the curve section. The curve was landed 4 feet above into the 1-A porosity horizon. Kick off point for this lateral was at a measured depth of 5521', 5521' true vertical depth, in the lower 1/3 of the Upper Ismay member of the Paradox Formation.

The Upper Ismay seen in the curve section of this well was predominately white to cream to tan, occasionally brown to mottled, cryptocrystalline to microcrystalline, chalky to clean and slightly argillaceous to occasionally slightly dolomitic with scattered anhydrite crystals and occasional fracture filling. Through out the Upper Ismay were thin interbedded brown to gray brown, cryptocrystalline to microcrystalline, limy, argillaceous to clean, occasionally marly dolomites. Scattered translucent to brown to buff chert fragments and thin interbeds of dark gray to black shale were also noted in Upper Ismay. No visible fluorescence, staining, porosity or significant gas increases were noted. The Hovenweep marker between the Upper Ismay and Lower Ismay was very poorly developed in this lateral. The probable, very thin Hovenweep shale was seen as predominately very dark, shaley, marly limestones and dolomite, with thin dark brown to black, platy to subplaty, slightly dolomitic and limy shale, which graded to very shaley limestone and dolomite.

The top of the Lower Ismay was picked at 5558' measured depth, 5556' true vertical depth, and was based primarily on the change in lithology as well as comparison to the well log of the original well bore. The Lower Ismay was predominately a light gray brown to light gray, occasionally white to tan to brown, cryptocrystalline to microcrystalline, rare very finely crystalline, dense, occasionally to slightly chalky, slightly fossiliferous and slightly silty. Scattered through out the Lower Isamy were brown to translucent chert, thin black carbonaceous shale partings and light gray, slightly sandy, micaceous, very limy siltstones. In the limestones near the base of the Lower Ismay, cream to light gray, slightly sandy, very limy siltstones were noted as very thin interbeds and laminations. These

siltstones had a very limestone rich cement and graded to a very silty to very slightly sandy limestone but displayed no shows. The lower 25' of the Lower Ismay, the limestones became increasingly dolomitic and had thin interbeded dolomites which were light brown to brown, cryptocrystalline to microcrystalline, occasionally microsucrosic, slightly anhydritic, increasingly shaley with depth, very argillaceous to clean, predominately dense. In these basal limestones and dolomites a 4' to 5' thick drilling break with a 74-unit gas increase was noted from 5611' to 5615. The limestones and dolomites had a fair sample show and a trace of intercrystalline to algal porosity. The limestones and dolomites of the basal Lower Ismay, with the exception of the drilling break, graded into the slightly dolomitic, calcareous, and carbonaceous shale of the Gothic Shale.

The top of the Gothic Shale was encountered at 5615' measured depth, 5599' true vertical depth and was predominantly a very dark brown to black, silty, carbonaceous, soft to moderately firm, calcareous to slightly dolomitic and slightly micaceous. Scattered within the Gothic were very thin, cryptocrystalline to microcrystalline, earthy, limestone and dolomite partings and inclusions, with very rare scattered anhydrite crystals. The top of the Gothic was a fairly gradational contact with no visible decrease or increase in penetration rate noted. The base of the Gothic was marked by an abrupt decrease in penetration rate as well as a sharp lithology change. The top of the Gothic was marked by a slight increase in shale in the samples

The top of the Desert Creek is commonly picked at the base of the Gothic Shale to top of the transition zone facies change, which in this lateral occurred at a measured depth of 5650', a true vertical depth of 5616', and was marked by a significant increase in penetration rate and an increase in limestones and thinly interbedded dolomites in the samples. The curve section of the lateral was landed in this transition zone at a measured depth of 5681', true vertical depth of 5618', with a horizontal displacement of 98'. When the lateral section of this well was begun, the well bore was turned downward to acquire the 1-A porosity zone. The lithology of the transition zone in this well was primarily brown to light gray, occasionally gray brown to white to cream, cryptocrystalline to microcrystalline, some platy, argillaceous to very slightly silty in part, slightly anhydritic with occasional carbonaceous shale partings. Also noted were thin interbedded brown, cryptocrystalline to microcrystalline, argillaceous, very limy dolomites. Only very minor intercrystalline porosity was noted, with a very weak mineral fluorescence. No significant gas increase was noted through out the transition zone.

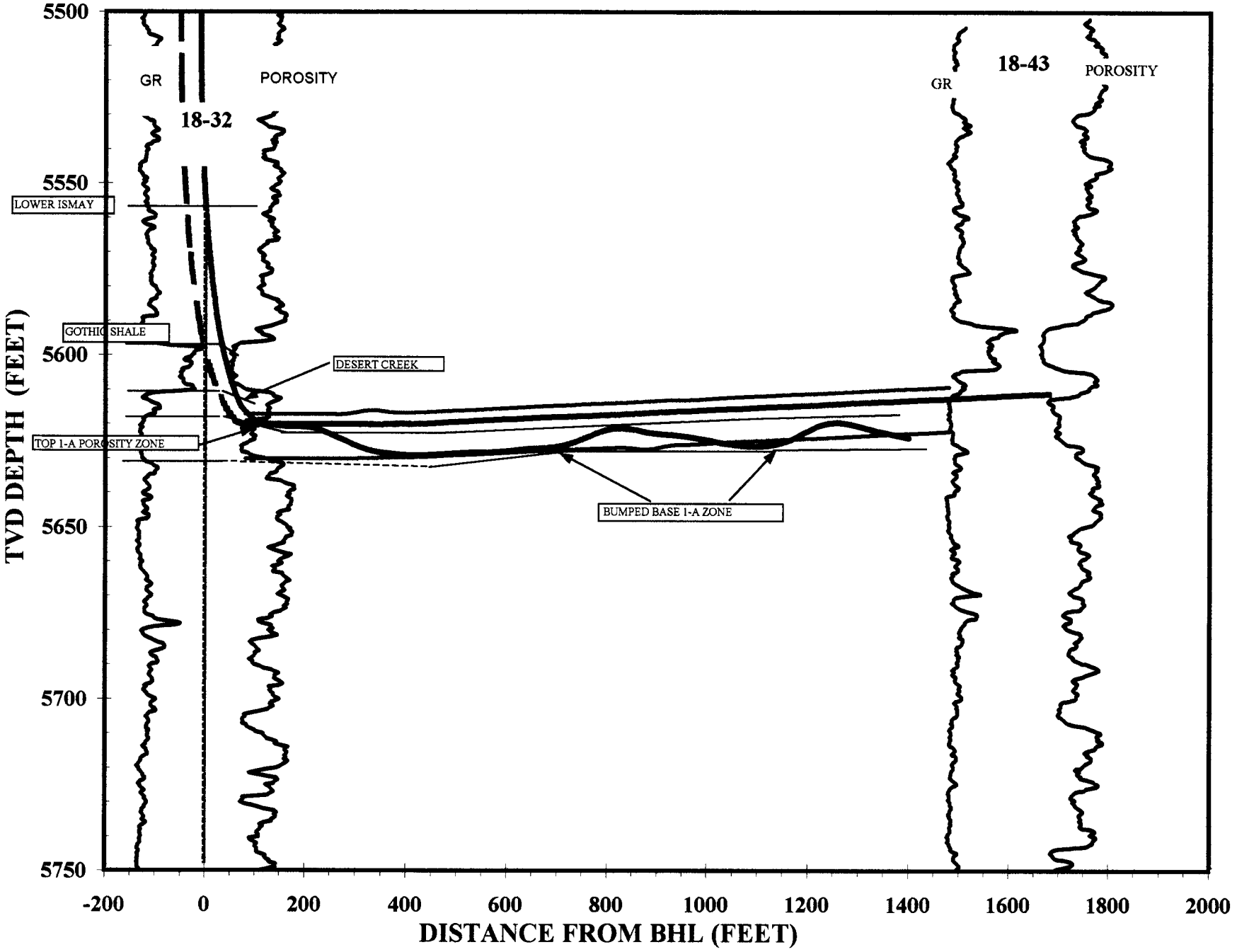
The top of the Desert Creek 1-A zone was picked at a measured depth of 5827', 5522' true vertical depth and was based on sample identification as well as the significant increase in the penetration rate. The top of the 1-A zone was approximately 8' low to the top on the porosity log for this well and 2' below the target line. The porosity of the 1-A zone was in an oolicastic to oomoldic limestone grainstone, which was tan to light brown to brown, microcrystalline to very fine crystalline, with a granular to microsucrosic to traces of sucrosic texture, very rare scattered translucent to clear chert fragments were noted, scattered anhydrite crystals to inclusions and some porosity filling, with a dolomite rich cement. The limestone grainstones had a well developed oomoldic to oolicastic to intercrystalline porosity. Dark brown to brown stain, with abundant black bitchimum (dead oil staining) staining was noted in the samples along with a good yellow gold fluorescence and a moderately fast to fast streaming to milky cut through out the length of the lateral. As the lateral was continued, the amounts of bitchimum (dead oil staining) appeared to vary in amounts as the top and base was approached. Scattered with in the very good, porous oolicastic to oolmoldic grainstones were thin, tight, dense, white to cream, slightly anhydritic, slightly oolictic limestone packstones, with traces of microfossils and no visible porosity development and had no visible sample show.

The lateral section was drilled through out its length in the porosity zone of the 1-A. The lithology of the 1-A porosity zone through out its length in the lateral remained fairly consistent with only very minor variations in porosity type being noted. The lithology of the 1-A, as described above was in a predominately a light brown to brown, occasionally tan, microcrystalline to very finely crystalline, microsucrosic to occasionally sucrosic, oolicastic to oomoldic limestone grainstone. It had with very rare scattered anhydrite crystals to inclusions and some porosity filling, slightly dolomitic, a trace of dolomite rich cement, and very thin, scattered cream to tan, cryptocrystalline, occasionally oolitic to very slightly fossiliferous limestone packstone inclusions.

The 1-A porosity zone had good visible porosity and a good sample show through its length. Of note was that the well very minor amounts of water while drilling the lateral, beginning almost as soon as the top of the 1-A zone was penetrated. The back ground gas in the lateral, was rather erratic, with the background gases reflecting the minor increases and decreases in flow. Through out the length of the lateral drilled in the 1-A, the oolicastic to oolimoldic limestone grainstones were consistent, until reaching a measured depth of approximately 6290', 55627' true vertical depth, with a horizontal displacement of approximately 706', when the base of the 1-A zone was bumped. The base of the 1-A porosity zone was again bumped at a measured depth of approximately 6700', 5626' true vertical depth and a horizontal displacement of 1115'. This determination was made due to the rapid upward change in the angle and the quality of porosity decreasing slightly, as well as the very slight amount of packstone increasing. The top of the 1-A was not encountered while drilling the lateral. The best drilling and porosity appeared to be 4' to 5' below the proposed target line beginning at a horizontal displacement of 256'. The limestones near the base of the 1-A was predominately showed a slight increase of cream to white to tan, cryptocrystalline to occasionally microcrystalline, occasionally chalky, dense, slightly to very anhydritic, occasionally fossiliferous to very slightly oolictic, a slight increase in anhydrite filling in the visible porosity. The tight limestone packstones had no visible sample shows. After the base was bumped, the well path turned sharply upward. The lithology remained the very good oolicastic to oomoldic limestone as the well path continued to its termination. The lateral was terminated, at a measured depth of 6985', 5624' true vertical depth and a horizontal displacement of 1400' on November 29, 1997.

In tracking the well bore through the 1-A porosity bench, the intercrystalline to oolicastic to oomoldic porosity was very good with only very minor changes in rock classification. From predominately intercrystalline and oolictic to oomoldic porosities in the limestone grainstones to the tight limestone packstones in thin laminations and inclusions with in the 1-A porosity zone as the well path approached and bumped the base and as the top of the zone was approached. Sample shows were predominated good and stayed consistent throughout the length of the lateral. The background gases remained predominately low in the curve section and increased rapidly upon penetrating the 1-A porosity zone. They were rather erratic through out the lateral section, and began decreasing, but were still erratic, after reaching a high of 7000 units at a measured depth of 6044', a horizontal displacement of 460', with a true vertical depth of 5629'. The background gases very slowly decreased through out the rest of the lateral to termination. The effective or best porosity was associated with the oolicastic and oolmoldic limestone grainstone facies, which had fair to good intercrystalline to oolitic porosities. Very minor anhydrite plugging was noted throughout. The well produced very minor amounts of water while drilling the 1-A zone.

MOBIL, Ratherford #18-32, Southeast Lateral



MOBIL

RATHERFORD UNIT #18-32
NW HORIZONTAL LATERAL LEG #2
1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 18, T41S, R24E
SAN JUAN, UTAH

GEOLOGY REPORT
by
DAVE MEADE / MARVIN ROANHORSE
ROCKY MOUNTAIN GEO-ENGINEERING CORP.
GRAND JUNCTION, COLORADO
(970) 243-3044

TABLE OF CONTENTS

WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #18-32 NW HORIZONTAL LATERAL LEG #2 IN 1-A POROSITY BENCH, DESERT CREEK
LOCATION:	SECTION 18, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB: 4835' GL: 4824'
SPUD DATE:	11/30/97
COMPLETION DATE:	12/06/97
DRILLING ENGINEER:	BENNY BRIGGS
WELLSITE GEOLOGY:	DAVE MEADE / MARVIN ROANHORSE
MUDLOGGING ENGINEERS:	DAVE MEADE / MARVIN ROANHORSE
CONTRACTOR:	BIG "A" RIG 25
TOOLPUSHER:	J. DEES
HOLE SIZE:	4 3/4"
CASING RECORD:	KICK OFF POINT IN WINDOW AT 5504' MEASURED DEPTH
DRILLING MUD:	M-I
ENGINEER:	RONNIE WESTENBURG/DANNE BEASON
MUD TYPE:	FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	7478' MEASURED DEPTH; 5621' TVD
STATUS:	TOH & LAYING DOWN LATERAL ASSEMBLY - PREPARING WELL FOR RIG MOVE

DRILLING CHRONOLOGY
RATHERFORD UNIT #18-32
1-A NW HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	ACTIVITY
11/30/97	5496'	2'	TIH W/JARS-LATCH ON TO WHIPSTOCK & JAR LOOSE-TOH-LAY DOWN TOOLS & WHIPSTOCK-PICK UP OVERSHOT & JARS-TIH-WASH OVER FISH-JAR ON FISH-TOH- LAY DOWN TOOLS & FISH-P. U. NEW WHIPSTOCK & EXTENTION & STARTER MILL-TIH-CUT 260' DRLG LINE-TIH-SHEAR & SET WHIPSTOCK-MILL W/STARTER MILL 5496' TO 5598'-TOH
12/01/97	5498'	6'	LAY DOWN STARTER MILL-PICK UP WINDOW & WATERMELLON MILLS-TIH-CIR-MILLING WINDOW FROM 5496' TO 5504'-CIR-TOH-RIG REPAIR (TURBO ON CAT MOTOR DOWN)-W. O. MECHANIC-REPAIR TURBO ON UNIT MOTOR-TOH-LAY DOWN MILLS-PICK UP CURVE ASSEMBLY
12/02/97	5504'	80'	L.D. 14 JNTS PH-6 & TIH W/CURVE ASSEMBLY-SWIVEL UP & BREAK CIRC.-R.U. WIRELINE & RUN GYRO-TIME DRLG 5504'-5509'-GYRO QUITS WORKING-WORK ON GYRO-DRLG CURVE 5509'-5510'-PULL GYRO OUT AFTER IT QUITS-DIR DRLG CURVE 5510'-5538'-R.D. GYRO DATA & LAY OUT PUP JNT-RIG SERVICE-DIR DRLG CURVE & SURVEYS 5538'-5584'-PUMP 370 STKS 10# BRINE & CIRC OUT SMPLS-L.D. 1 JNT AOH-TOOH-L.D. MTR-P.U. NEW MTR & NB#2-TEST BHA
12/03/97	5584'	123'	TIH-P.U. SWIVEL & BREAK CIRC-DIR DRLG CURVE & SURVEYS TO 5707' TD OF CURVE-PUMP 10 BBL SWEEP & CIRC OUT SMPLS-HANG SWIVEL & L.D. 61 JNTS AOH D.P. & TOOH
12/04/97	5707'	605'	TIH-BREAK CIRC.-DIR DRLG & SURVEYS
12/05/97	6312'	788'	DIR DRLG & SURVEYS
12/06/97	7100'	378'	DIR DRLG & SURVEYS TO TD OF 7478'- CIR OUT SPLS & SWEEP-PUMP 10 BBLS BRINE WATER-TOH-LAY DOWN LATERAL ASSEMBLY-PICK UP RETRIEVING HOOK-TIH FOR WHIPSTOCK

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #18-32 NW 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
11/30/97	5496'	2'			
12/01/97	5498'	6'			
12/02/97	5504'	80'			
12/03/97	5584'	123'			
12/04/97	5707'	605'			
12/05/97	6312'	788'			
12/06/97	7100'	378'			
	7478'	TD			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 NW 1-A HORIZONTAL LATERAL LEG #2

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 RR	4 3/4"	STC	MF-15P	5504'/ 5584'	80'	12	6.7
#2	4 3/4"	STC	MF-15GP	5584'/ 5707'	123'	14.5	8.48
#3 (RR#2)	4 3/4"	STC	MF-15GP	5707'/ 7478'	1771'	64.5	27.5

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. : LEG #2

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5300	0.83	44.91	5299.71	21.9 N	8.72 E	7.79	0
5496	0.96	50.5	5495.69	23.95 N	10.99 E	7.42	0.08
5504	3.4	319.9	5503.68	24.17 N	10.89 E	7.64	44.28
5514	7.8	311.9	5513.63	24.86 N	10.19 E	8.61	44.58
5524	13.1	309.7	5523.46	26.03 N	8.81 E	10.43	53.14
5534	18.5	308.6	5533.08	27.75 N	6.7 E	13.15	54.08
5544	23.4	302.1	5542.42	29.79 N	3.78 E	16.7	54.16
5554	27.9	306.8	5551.43	32.25 N	0.22 E	20.99	49.35
5564	32.8	311.3	5560.06	35.44 N	3.69 W	26.04	53.99
5574	37.7	313.9	5568.22	39.35 N	7.93 W	31.81	51.24
5584	42.2	314.5	5575.89	43.83 N	12.53 W	38.22	45.16
5594	45.2	309.6	5583.12	48.45 N	17.67 W	45.12	45.22
5604	47.3	304.2	5590.04	52.78 N	23.44 W	52.32	44.29
5614	51.9	301.7	5596.52	56.91 N	29.83 W	59.85	49.78
5624	56.9	300.9	5602.33	61.14 N	36.78 W	67.87	50.42
5634	61	302.1	5607.49	65.61 N	44.08 W	76.31	42.27
5644	64.2	305.3	5612.09	70.54 N	51.46 W	85.12	42.79
5654	67.7	307.9	5616.17	75.99 N	58.79 W	94.22	42.29
5664	71.9	307.9	5619.62	81.75 N	66.19 W	103.59	42
5674	76.8	307.2	5622.32	87.62 N	73.83 W	113.2	49.46
5684	82.1	306.6	5624.15	93.52 N	81.69 W	123	53.33
5707	91	305.2	5625.53	106.96 N	100.26 W	145.84	39.17
5732	91.8	308.9	5624.92	122.02 N	120.21 W	170.77	15.14
5763	91.7	312.4	5623.97	142.2 N	143.71 W	201.75	11.29
5795	92.7	313.7	5622.75	164.03 N	167.08 W	233.71	5.12
5827	89.5	314.2	5622.13	186.23 N	190.11 W	265.65	10.12
5859	87	315.1	5623.11	208.71 N	212.86 W	297.57	8.3
5891	86.6	316.1	5624.89	231.53 N	235.22 W	329.42	3.36
5923	86.7	316.3	5626.76	254.59 N	257.33 W	361.23	0.7
5954	86.7	314.4	5628.55	276.61 N	279.08 W	392.09	6.12
5986	87.6	314.6	5630.14	299.01 N	301.87 W	423.99	2.88
6018	89.9	314.2	5630.84	321.39 N	324.73 W	455.93	7.3
6050	90.8	314.7	5630.64	343.8 N	347.57 W	487.87	3.22
6081	90.7	313.7	5630.24	365.41 N	369.79 W	518.81	3.24
6113	89.7	312.3	5630.13	387.23 N	393.19 W	550.79	5.38
6145	90.6	311.7	5630.04	408.64 N	416.98 W	582.79	3.38
6176	91.1	310.7	5629.58	429.06 N	440.3 W	613.78	3.61
6208	91.6	310.9	5628.83	449.96 N	464.51 W	645.78	1.68

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. : LEG #2

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6239	90.4	310.2	5628.29	470.11 N	488.06 W	676.77	4.48
6271	90.4	310.2	5628.06	490.77 N	512.51 W	708.76	0
6303	90.4	310.3	5627.84	511.44 N	536.93 W	740.76	0.31
6335	91.2	310.2	5627.39	532.12 N	561.35 W	772.76	2.52
6366	89.9	309.8	5627.09	552.04 N	585.1 W	803.75	4.39
6398	90.7	309.8	5626.93	572.52 N	609.68 W	835.74	2.5
6429	91.4	309.8	5626.36	592.36 N	633.49 W	866.73	2.26
6461	91.2	310.3	5625.63	612.95 N	657.98 W	898.72	1.68
6493	90.2	310.3	5625.24	633.64 N	682.38 W	930.71	3.13
6525	89	310.5	5625.47	654.38 N	706.75 W	962.71	3.8
6557	89.2	310.2	5625.97	675.1 N	731.14 W	994.7	1.13
6588	90.7	311	5626	695.27 N	754.67 W	1025.7	5.48
6620	89.7	311	5625.88	716.27 N	778.82 W	1057.7	3.13
6651	90.2	311.2	5625.91	736.64 N	802.18 W	1088.7	1.74
6682	92.5	311.6	5625.18	757.14 N	825.43 W	1119.69	7.53
6713	92.9	310.7	5623.72	777.51 N	848.75 W	1150.65	3.17
6745	93.5	309.8	5621.93	798.16 N	873.13 W	1182.6	3.38
6776	93.6	309.1	5620.01	817.82 N	897.02 W	1213.53	2.28
6808	94.7	309.5	5617.7	838.03 N	921.72 W	1245.43	3.66
6840	91	309.5	5616.11	858.36 N	946.38 W	1277.37	11.56
6872	85.1	308.8	5617.2	878.54 N	971.17 W	1309.32	18.57
6903	85.7	309.5	5619.68	898.05 N	995.13 W	1340.21	2.97
6934	88.8	309.8	5621.17	917.81 N	1018.97 W	1371.16	10.05
6966	89.2	309.5	5621.73	938.22 N	1043.6 W	1403.15	1.56
6998	89.1	308.2	5622.2	958.29 N	1068.52 W	1435.12	4.07
7029	91.1	308.9	5622.15	977.61 N	1092.76 W	1466.09	6.84
7061	92.1	308.6	5621.26	997.63 N	1117.71 W	1498.05	3.26
7093	92.3	308.1	5620.03	1017.47 N	1142.79 W	1529.99	1.68
7125	91.6	308.4	5618.94	1037.27 N	1167.9 W	1561.94	2.38
7156	93.3	308.8	5617.61	1056.59 N	1192.11 W	1592.88	5.63
7189	93	308.4	5615.8	1077.15 N	1217.86 W	1625.8	1.51
7220	87.9	308.8	5615.56	1096.48 N	1242.08 W	1656.76	16.5
7252	88.2	309.6	5616.65	1116.7 N	1266.86 W	1688.73	2.67
7284	88.8	309.8	5617.48	1137.13 N	1291.47 W	1720.71	1.98
7316	89.9	309.5	5617.85	1157.55 N	1316.11 W	1752.7	3.56
7348	89.4	309.8	5618.04	1177.97 N	1340.75 W	1784.69	1.82
7379	88.3	309.1	5618.66	1197.66 N	1364.68 W	1815.67	4.21
7411	88.6	308.2	5619.53	1217.64 N	1389.66 W	1847.63	2.96
7443	88.2	307.2	5620.42	1237.2 N	1414.97 W	1879.57	3.36
7478	88.2	307.2	5621.52	1258.35 N	1442.83 W	1914.47	0

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 NW 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	pH	WL	CK	CHL.	CA	SD	OIL	WTR
11/30/97	6985'	8.4	26	–	–	–	11.8	N/C	–	11000	1200	–	0%	100%
12/01/97	5502'	8.5	26	–	–	–	11.5	N/C	–	20000	1600	–	0%	100%
12/02/97	5505'	8.5	26	–	–	–	11.5	N/C	–	19000	1600	–	0%	100%
12/03/97	5614'	8.5	27	–	–	–	11.6	N/C	–	25000	2000	–	0%	100%
12/04/97	5798'	8.6	27	–	–	–	12	N/C	–	34000	1820	–	0%	100%
12/05/97	6567'	8.6	27	–	–	–	12	N/C	–	36000	1800	–	0%	100%
12/06/97	7256'	8.5	27	–	–	–	11.5	N/C	–	32000	1600	–	11%	89%

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 NW 1-A HORIZONTAL LATERAL LEG #2

DEPTH	LITHOLOGY

5504.00 5510.00 "LS crm-tan,occ brn,crpxl-micxl,rthy-chk,arg ip,chty-rr trnsl CHT frag,styl ip,dns-tt,NFSOC,sl dol-v rr gybrn micxl arg tt DOL incl NFSOC,v rr dkgy-blk SH & CMT frag"

5510.00 5530.00 "LS tan-brn,occ crm-wh,crpxl-micxl,chky-rthy,v sl anhy,dol ip,v rr styl,occ mrly,dns,NFSOC w/intbd DOL m-dkbrn,occ gybrn,micxl-crpxl,arg,lmy,rthy,tt-v rr frac POR,rr FLOR,NSOC & scat lt-dkbrn-blk smky CHT frag-v thn dkgy-blk dol-calc sl mica plty SH lams"

5530.00 5540.00 "LS AA,pred brn-v arg,occ mrly grdg to lmy MRLST,decr CHT & SH, & intbd DOL AA,v rr ANHY incl-frac fl,NFSOC"

5540.00 5550.00 "LS crm-tan-brn,occ wh,crpxl-micxl,chk-arg,sl rthy,occ mrly,dol ip,scat trnsl-gy-brn CHT frag,v rr SH lams,grdg to MRLST ip,tt,NFSOC,w/v thn intbd DOL-m-dkbrn-gybrn,micxl-crpxl,lmy ip,arg,rthy,v sl anhy,mrly ip,occ grdg to dol SH,tt,NFSOC"

5550.00 5560.00 "LS AA,v arg,occ slty-mrly grdg to lmy MRLST,tr CHT & SH, & intbd DOL AA,v rr ANHY incl-frac fl,NFSOC"

5560.00 5570.00 "LS AA,v arg-mrly-chky,sl incr slty occ grdg to lmy SLTST/tr v f qrtzc gr incl,NFSOC/tr SH,CHT& DOL AA"

5570.00 5585.00 "LS lt-mgy-wh,lt-mgybrn,occ tan-brn,micxl-crpxl,chk-slty AA,occ arg-mrly,sl dol ip,scat CHT frag AA,rr SH lams,grdg to MRLST ip,tt,NFSOC,w/v thn intbd DOL-m-dkbrn,micxl-crpxl,lmy ip,arg,rthy,v sl anhy,mrly ip,occ grdg to dol SH,tt,NFSOC"

5585.00 5590.00 "LS AA,v chk-slty,occ arg-mrly,grdg to lmy SLTST/chky-anhy-mrly mtx,tr SH-rr CHT & DOL AA,rr ANHY incl-frac fl,NFSOC"

5590.00 5600.00 "LS AA,v rr intxl POR,n-v rr FLOR-STN-CUT,incr slty,bcmg pred ltgy-offwh,v arg,v sl sdy-mica,v lmy SLTST,rr brn-mbrn crpxl dns DOL frag & scat brn-dkbrn CHT frag"

5600.00 5610.00 "LS wh-crm-tan,ltgy-brn ip,crpxl-micxl,rthy-chk,v slty,grdg to lmy SLTST AA,scat bf-dkbrn-smky gy CHT frag,tr micxl DOL incl AA,dns,tt,NFSOC"

5610.00 5620.00 "LS AA,v rr intxl POR,n vis FSOC,w/scat CHT AA,thn intbd DOL AA,grdg to SH dkgy-blk,sbblky-plty,slty ip,mica,sl dol-calc,carb"

5630.00 5650.00 "SH blk-dkgybrn,sbblky-blky,sft-mfrm,mica,sl calc-sl dol,carb,rthy,w/rr scat crm-whcrpxl-micxl,rthy-chky,dns LS & brn-mbrn crpxl-micxl,arg-rthy,lmy,sl shy dns DOL frag,NFSOC"

5650.00 5660.00 "LS tan-brn,crpxl,occ micxl,anhy ip,occ rthy-arg,sl dol,v rr mic fos,mrly ip,tt,NFSOC,scat intbd DOL m-dkbrn,crpxl-micxl,lmy,occ arg,sl fos,tt-v rr intxl POR,NFSOC & v thn blk carb SH lams"

5660.00 5670.00 "LS AA,incr tan-ltgy,crpxl-micxl,sl-v slty,v chk,occ sl chty,tt-v rr intxl POR,NFSOC & v thn intbd DOL brn-dkbrn AA,v rr thn carb SH lams"

DEPTH	LITHOLOGY

5670.00 5680.00 "LS tan-crm-wh,occ brn-ltbrn,vfxl-gran-micxl,occ crpxl,oom-ooc GRNST,tr intbd dns sl ool PCKST,chky/tr POR fl-rr plty frag,dol/tr DOL cmt,sl anhy/tr xl ANHY incl,tr blk SH frag-rr lam,g oom-ooc/tr intxl POR,g scat bri-mod bri yel FLOR,fr-g ltbrn-tr brn/rr pp blk STN,dif/tr slow stmg mlky CUT,tr mgy DOL frag NFSOC"

5690.00 5700.00 "LS AA,POR AA,incr scat spty mod bri-bri yel FLOR,g ltbrn-incr brn/dkbrn-rr blk STN,g fast-mod fast stmg mlky CUT"

5700.00 5707.00 "LS AA,POR AA,decr FLOR AA,STN-CUT AA,w/scat SH blk-dkbrnblk,prob cvgs"

5707.00 5720.00 "LS tan-ltbrn,occ crm-wh,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST w/rr scat chk sl ool occ anhy plty ip PKST,v rr ANHY xl-incl-rr POR fl,scat rr trnsl CHT frag,fr-g ool-intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-brn STN-rr blk dd o STN,g mod fast CUT"

5720.00 5730.00 "LS AA,tr ltbrn-brn ool dns sl anhy PKST,incr ooc-oom POR,fr-g dull-bri yel FLOR,fr-g brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

5730.00 5750.00 "LS tan-ltbrn-brn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST w/rr scat wh-crm chk sl ool occ anhy PKST,rr-tr ANHY xl-incl-rr POR fl,v rr CHT frag,sl DOL rich cmt,fr-g ool-tr intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-brn-rr blk STN,g mod fast-fast CUT"

5750.00 5760.00 "LS AA,sl incr ool PKST AA,fr-g dull-bri yel FLOR,fr-g ool-tr intxl POR,fr-g ltbrn-brn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

5760.00 5770.00 "LS AA,decr PKST,g-v g ool-tr intxl POR,g dull-bri yel FLOR,fr-g ltbrn-brn STN-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

5770.00 5790.00 "LS tan-ltbrn-brn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST w/intbd crm-tan,occ chk sl anhy sl ool PKST,rr ANHY xl-incl-rr POR fl,v rr trnsl CHT frag,sl DOL rich cmt,fr ool-intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-brn-rr blk STN,g mod fast-fast CUT"

5790.00 5810.00 "LS AA,decr PKST,sl incr CHT frag,incr ool POR,fr-g dull-bri yel FLOR,STN-CUT AA"

5810.00 5830.00 "LS AA,pred ooc-oom GRNST,w/incr dns sl anhy occ ool PKST,fr ool-intxl POR,fr-g dull-bri yel FLOR,fr brn-rr blk STN,fr-g mod fast stmg CUT"

5830.00 5860.00 "LS tan-ltbrn-brn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST w/intbd crm-tan,occ chk sl anhy sl ool PKST,rr ANHY xl-rr POR fl,rr trnsl CHT frag,sl DOL rich cmt,fr ool-tr intxl POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-tr blk STN,fr-g slow-mod fast CUT"

5860.00 5900.00 "LS tan-ltbrn,occ crm-brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,scat crm-tan dns chk ip ool ip PKST,sl dol-tr DOL rich cmt,anhy ip-tr ANHY xl-POR fl,v rr trnsl CHT frag,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-tr blk STN,g fast CUT"

5900.00 5920.00 "LS AA,tr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,tr-fr ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT,w/thn intbd ool dns sl anhy occ dol PKST"

5920.00 5950.00 "LS tan-ltbrn-brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST w/intbd crm-tan dns chk ip ool ip PKST,sl dol-tr DOL rich cmt,anhy ip-tr ANHY xl-POR fl,rr scat trnsl CHT frag,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,fr ltbrn-tr blk STN,g mod fast CUT"

DEPTH	LITHOLOGY

5950.00 5980.00 "LS AA,incr brn,bcmg gybrn ip,w/v thn ool dns sl anhy occ plty crpxl PKST,rr scat trnsl-wh CHT frag,fr-g ool-tr intxl POR,fr-g dull-bri yel FLOR,fr-g lt-mbrn-rr dkbrn STN,tr-fr blk dd o STN,fr-g mod fast-fast stmg CUT"

5980.00 6000.00 "LS AA,incr mbrn-brn,pred ooc-oom GRNST,sl incr micsuc,w/thn occ plty PKST AA,v rr ANHY xl-incl-v rr POR fl,v rr scat trnsl CHT frag,POR-FLOR-STN-CUT AA"

6000.00 6020.00 "LS tan-ltbrn-brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST w/intbd crm-tan dns chk ip ool ip PKST,sl dol-tr DOL rich cmt,anhy ip-tr ANHY xl-POR fl,rr scat trnsl CHT frag,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,fr ltbrn-tr blk STN,g mod fast CUT"

6020.00 6050.00 "LS AA,incr wh-crm-ltbrn v thn ool dns sl anhy occ plty crpxl PKST,v rr scat trnsl-wh CHT frag,fr-g ool-tr intxl POR,fr-g dull-bri yel FLOR,fr-g lt-mbrn-rr dkbrn STN,tr-fr blk dd o STN,fr-g mod fast-fast stmg CUT"

6050.00 6080.00 "LS tan-ltbrn-brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST w/incr crm-tan dns chk ip occ plty ool ip PKST,sl DOL rich cmt,anhy ip-tr ANHY xl-POR fl,tr trnsl CHT frag,fr-g ool-fr intxl POR,fr-g dull-bri yel FLOR,fr-g ltbrn-tr blk STN,g mod fast CUT"

6080.00 6090.00 "LS tan-crm-ltbrn,occ brn,wh,vfxl-crpxl,gran-micsuc,ooc-oom GRNST/scat-intbd PCKST AA,scat tan CHT frag-incl,POR AA,sl decr FLOR AA,STN & CUT AA"

6090.00 6120.00 "LS tan-crm-ltbrn,vfxl-gran-micxl,crpxl-micsuc,ooc-oom-sl agal-chky GRNST,scat-intbd dns sl ool sl dol PCKST/rr wh chky plty frag,sl anhy,vrr trnsl-tan CHT frag-incl,fr-g ooc-oom-agal POR,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/tr brn STN,g-fr slow dif/tr slow stmg mlky CUT"

6120.00 6150.00 "LS tan-crm-ltbrn,vfxl-micxl-crpxl,gran,occ micsuc,ooc-oom-sl agal GRNST,incr scat-intbd dns sl dol-chky plty PCKST occ ool,sl anhy/tr POR fl,tr tan-bf sl ool CHT frag-incl,fr-g ooc-oom-sl incr intxl POR,FLRO-STN AA,g-fr mod fast stmg mlky CUT"

6150.00 6180.00 "LS AA,ooc-oom-sl agal GRNST/sl incr ool-sl agal PCKST AA,tr CHT AA,fr-g even dull-mod bri/tr scat bri yel FLOR,fr-g oom-ooc/tr intxl POR,fr-g ltbrn-brn STN,fr-g slow dif/tr slow stmg mlky CUT"

6180.00 6210.00 "LS tan-ltbrn,occ brn,crm-wh,crpxl-micxl-vfxl,occ gran-micsuc,GRNST sl ooc-ool/sl incr scat-intbd dns chky sl ool PCKST,scat tan-bf CHT frag-incl,fr-g intxl-ooc/tr oom POR,g mod bri-scat bri yel FLOR,fr-g ltbrn/tr brn STN,fr-g dif/tr slow stmg mlky CUT"

6210.00 6240.00 "LS AA,crpxl-micxl-vfxl,occ gran-micsuc,GRNST AA-occ grdg to PCKST/sl incr scat-intbd dns chky sl ool PCKST,v sl dol,scat tan-bf CHT frag-incl,fr-g intxl-ooc/tr oom POR,g mod bri-scat bri yel FLOR,fr-g ltbrn/tr brn STN,fr-g dif/tr slow stmg mlky CUT"

6240.00 6270.00 "LS tan-crm-ltbrn,occ brn,wh,crpxl-micxl-vfxl,occ gran-micsuc,pred GRNST sl ooc-ool/scat-intbd dns chky sl ool PCKST,scat CHT AA,ahny/rr xl ANHY incl,v sl dol,POR AA,g mod bri-scat bri yel FLOR,fr-g ltbrn/tr brn STN,fr-g dif/tr slow stmg mlky CUT"

6270.00 6300.00 "LS tan-crm-ltbrn,vfxl-micxl-crpxl,gran,occ micsuc,ooc-ool-sl agal GRNST/scat-intbd dns ool-chky plty v sl dol PCKST,sl anhy/tr POR fl,tr tan-trnsl CHT,fr-g ooc-ool-intxl POR,FLOR-STN AA,g-fr dif/mod slow stmg mlky CUT"

DEPTH	LITHOLOGY

6300.00 6320.00 "LS AA,crpxl-vfxl-micxl,occ gran-micsuc,ool-ooc GRNST grdg to PCKST ip,sl incr chkydns-rr plty occ ool PCKST,sl anhy/tr POR fl,fr-g ool-ooc/intxl POR,g-fr even mod bri-dull/scat bri yel FLOR,g ltbrn/tr brn & blk STN,g fast stmg mlky CUT"

6320.00 6350.00 "LS tan-crm,ltbrn,occ brn,wh,crpxl-micxl,gran-occ micsuc,pred ooc-ool GRNST occ grdg to PCKST,scat PCKST AA,sl anhy/tr POR fl,rr tan CHT incl,occ sl dol,g-fr ool-ooc/intxl POR,g ltbrn/tr brn & rr blk pp STN,CUT AA"

6350.00 6380.00 "LS tan-ltbrn,occ brn,crm-wh,crpxl-micxl-vfxl,occ gran-micsuc,ooc-ool-sl agal GRNST/scat-intbd dns chky sl ool PCKST,rr tan-bf CHT,anhy/tr POR fl,sl dol,fr-g ooc-intxl-tr oom POR,g mod bri-scat bri yel FLOR,STN AA,fr-g dif/tr slow stmg mlky CUT"

6380.00 6400.00 "LS AA,micxl-vfxl-gran,crpxl-occ micsuc,ooc-ool-sl agal GRNST/scat-intbd dns sl ool PCKST,sl chky/tr plty prtgs,rr tan-bf CHT,anhy/tr POR fl,sl dol,fr-g ooc-oom-tr intxl POR,g even mod bri-scat bri yel FLOR,g ltbrn-brn STN,g fast stmg-blooming mlky CUT"

6400.00 6420.00 "LS AA,pred ooc-ool-sl agal GRNST/scat-intbd dns sl ool PCKST,sl chky/tr plty prtgs,rr tan-bf CHT,anhy/tr POR fl,sl dol,fr-g ooc-oom-tr intxl POR,g even mod bri-scat bri yel FLOR,g ltbrn-brn STN,CUT AA"

6420.00 6440.00 "LS AA,micxl-crpxl-vfxl,occ gran-micsuc,ooc-ool-sl agl GRNST,w/scat-intbd dns sl ool PCKST,rr CHT AA,anhy-chky/tr POR fl,sl dol,fr-g ooc-intxl-tr oom-agal POR,FLOR AA,g ltbrn-incr brn/tr blk STN,g fast stmg-sl blooming mlky CUT"

6440.00 6470.00 "LS tan-ltbrn,occ brn,crm-wh,crpxl-micxl-vfxl,occ gran-micsuc,ooc-ool-sl oom GRNST/scat-intbd dns chky sl ool PCKST,rr tan CHT,anhy/tr POR fl,sl dol,g ool-intxl POR,g mod bri-scat bri yel FLOR,STN AA,g fast stmg-sl blooming mlky CUT"

6470.00 6500.00 "LS tan-ltbrn,occ brn,crm-wh,crpxl-micxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w//rr dns chky sl ool PCKST,rr tan CHT,anhy ip-tr ANHY POR fl,sl dol-tr DOL rich cmt,g ool-intxl POR,fr-g bri-dull yel FLOR,fr-g brn STN-rr blk dd o STN,g fast stmg mlky CUT"

6500.00 6530.00 "LS AA,incr gran-suc,w/sl incr PKST,v sl chty-rr scat trnsl-clr CHT frag,sl anhy-rr ANHY xl-incl-occ POR fl,fr-g intxl-tr-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6530.00 6560.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w/rr wh-crm dns chky sl ool PCKST,rr trnsl CHT frag,anhy ip-tr ANHY POR fl,sl dol-rr DOL rich cmt,g ool-intxl POR,fr-g bri-dull yel FLOR,fr-g brn-rr blk STN,fr-g mod fast-fast stmg CUT"

6560.00 6590.00 "LS AA,incr anhy-ANHY xl-incl-POR fl,sl incr trnsl-crl CHT frag,pred intxl POR & brn STN,FLOR-CUT AA"

6590.00 6620.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w/tr wh-crm-bf dns sl chky sl ool PCKST,rr trnsl CHT frag,anhy ip-tr ANHY POR fl,sl dol-DOL rich cmt,g ool-intxl POR,fr-g bri-dull yel FLOR,fr-g brn-rr blk STN,fr-g mod fast-fast stmg CUT"

6620.00 6650.00 "LS AA,pred ooc-oom GRNST,decr PKST,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr-g ltbrn-brn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

DEPTH	LITHOLOGY

6650.00 6680.00 "LS AA,incr micsuc-suc,w/incr intbd crm-wh-bf rthy-chk dns sl ool occ anhy PKST,tt-g intxl-tr-fr ool POR,fr-g dull-fr bri yel FLOR,fr-g ltbrn-brn-occ dkbrn STN,tr blk dd o STN,fr-g slow-fast stmg mlky CUT"

6680.00 6710.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w/rr wh-crm-bf dns occ chky sl ool PCKST,rr trnsl CHT frag,sl anhy-tr ANHY POR fl,sl dol-DOL rich cmt,g ool-intxl POR,fr-g bri-dull yel FLOR,fr-g brn-rr blk STN,fr-g mod fast-fast stmg CUT"

6710.00 6740.00 "LS AA,pred GRNST,w/v rr scat PKST AA,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6741.00 6770.00 "LS AA,sl incr ANHY POR fl,POR-FLOR-STN-CUT AA"

6770.00 6800.00 "LS AA,pred GRNST,w/v rr scat PKST AA,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6800.00 6820.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w/tr wh-crm-bf dns occ chky sl ool PCKST,v rr trnsl CHT frag,sl anhy-tr ANHY POR fl,sl dol-DOL rich cmt,g intxl-fr ool POR,fr-g bri-dull yel FLOR,fr brn-rr blk STN,fr-g mod fast-fast CUT"

6820.00 6830.00 "LS AA,GRNST AA-POR-FLOR-STN-CUT AA,incr & bcmg pred dns,occ rthy-chk,sl chty,v sl ool PKST w/n vis-tr FLOR-STN-CUT AA"

6830.00 6840.00 "LS AA,pred ooc-oom GRNST,w/scat wh-crm-bf dns occ chky sl ool PCKST,v rr CHT AA,sl anhy-tr ANHY POR fl,sl dol,g intxl-fr ool POR,g even mod bri-dull/scat bri yel FLOR,fr ltbrn-brn/tr pp blk STN,g mod fast-fast stmg mlky CUT"

6840.00 6850.00 "LS AA,POR-FLOR-STN-CUT AA"

6850.00 6860.00 "LS tan-crm-wh,occ brn,crpxl,vfxl-gran,occ micsuc,ooc-ool GRNST/intbd-scat dns-incr plty sl ool PCKST,v chky prtgs-sl anhy/tr POR fl,tr scat bf-trnsl CHT frag-incl,v sl dol ip,fr-g intxl/tr ooc-ool POR,fr-g dull-mod bri/scat bri yel "

6860.00 6880.00 "LS AA,pred GRNST AA/scat-intbd PCKST AA,decr chky plty PCKST prtgs,sl anhy/tr POR fl,POR-FLOR AA,fr-g ltbrn/rr brn & blk pp STN,g mod fast dif/tr slow stmg mlky CUT"

6880.00 6910.00 "LS tan-crm,occ brn-ltbrn,wh,vfxl-micxl-crpxl,occ gran-micsuc,ooc-oom-sl ool GRNST/scat dns-rr plty sl ool PCKST,chky-sl anhy/tr POR fl,tr bf-trnsl vrr xln ANHY frag,v sl dol,fr-g ooc-oom/tr intxl POR,g even mod bri/scat bri yel FLOR,g-fr ltbrn/tr scat brn & blk pp STN,g fast-mod fast stmg mlky CUT"

6910.00 6930.00 "LS AA,vfxl-micxl-gran,occ crpxl,micsuc,ooc-oom-sl ool GRNST/scat-occ intbd dns-rr plty sl ool PCKST,chky-sl anhy/tr POR fl,tr CHT AA,v sl dol,g ooc-oom-tr intxl POR,g even mod bri/scat bri yel FLOR,g ltbrn/tr brn & blk pp STN,g mod fast stmg mlky CUT"

6930.00 6960.00 "LS AA,pred GRNST AA/tr scat-intbd PCKST AA,rr chky plty PCKST prtgs,chky/tr POR fl,sl anhy/rr xl ANHY frag-incl,POR-FLOR AA,fr-g ltbrn/tr brn & blk pp STN,g mod fast-slow stmg mlky CUT"

6960.00 6980.00 "LS tan-crm-ltbrn,occ brn,wh,vfxl-gran-micxl,occ crpxl,micsuc,ooc-oom-sl ool GRNST/tr scat dns-rr plty sl ool PCKST,chky-sl anhy/tr POR fl,tr CHT AA,vrr xln ANHY frag,sl dol/tr DOL cmt,POR-FLOR AA,g ltbrn-brn/sl incr blk pp STN,CUT AA"

DEPTH	LITHOLOGY

6980.00 7000.00 "LS tan-ltbrn-crm,occ brn,wh,vfxl-gran-micsuc,occ crpxl,pred oom-ooc-sl ool GRNST,tr scat-occ intbd dns sl ool PCKST,sl chky/rr plty frag-sl anhy/tr POR fl,tr tan CHT frag-incl,v sl dol,g ooc-oom-intxl POR,FLOR-STN AA,g blooming-slow stmg mlky CUT"

7000.00 7030.00 "LS AA,pred GRNST AA/tr scat-occ intbd PCKST AA,rr chky plty PCKST prtgs,sl anhy/rr xl ANHY frag-POR fl,v sl dol,g ooc-oom-intxl POR,g even mod bri-dull/scat bri yel FLOR,fr-g ltbrn-scat brn & blk pp STN,g blooming-fast stmg mlky CUT"

7030.00 7060.00 "LS tan-crm,occ ltbrn-brn,wh,vfxl-gran-micsuc,occ micxl-crpxl,ooc-oom GRNST/tr scat-occ intbd dns-rr plty v sl ool PCKST,sl chky-sl anhy/tr POR fl,rr tan CHT incl,v sl dol,g ooc-oom-tr intxl POR,FLOR-STN AA,g blooming-fast stmg mlky CUT"

7060.00 7090.00 "LS AA,pred GRNST AA,w/tr-rr scat PKST AA,g ooc-oom-tr intxl POR,g even mod bri-scat bri yel FLOR,g ltbrn/tr scat brn & rr blk pp STN,g blooming-fast stmg mlky CUT"

7090.00 7110.00 "LS tan-crm-ltbrn,occ brn,wh,vfxl-gran-micsuc,micxl-crpxl,pred ooc-oom GRNST/tr scat-occ intbd dns-rr plty chky PCKST,sl chky-anhy/tr POR fl,rr trnsl-bf CHT incl,POR-FLOR-STN AA,g slow-mod fast stmg mlky CUT"

7110.00 7130.00 "LS AA,pred ooc-oom-sl ool GRNST/tr scat PCKST AA/rr plty PCKST frag,sl chky-anhy/tr POR fl,tr-rr CHT frag-incl AA,g ooc-oom-intxl POR,g evendull-mod bri/scat bri yel FLOR,g-fr ltbrn/tr brn & blk pp dd o STN,g mod fast-sl blooming mlky CUT"

7130.00 7170.00 "LS tan-crm,occ ltbrn-brn,rr wh,vfxl-gran,micxl-micsuc,occ crpxl,ooc-oom-sl ool GRNST,tr scat-occ intbd dns sl ool PCKST,chky-sl anhy/tr POR fl,rr tan CHT incl,g ooc-oom-intxl POR,g even mod bri/scat bri yel FLOR,g ltbrn-tr brn & blk pp STN,CUT AA"

7170.00 7190.00 "LS AA,pred GRNST AA,PCKST AA/sl incr wh chky-sl anhy plty frag-prtgs,tr tan-bf-occ trnsl CHT frag-incl,sl dol/tr DOL cmt,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/scat brn & tr blk pp STN,g slow blooming/tr slow stmg mlky CUT"

7190.00 7200.00 "LS tan-ltbrn,occ crm-rr wh,crpxl-micxl,occ vfxl,rr gran-micsuc,pred dns tt occ chk-plty v sl ool PKST,w/thn intbd ooc-oom GRNST,sl anhy,tt-tr intxl-rr ool POR,fr dull-bri yel FLOR,rr-tr ltbrn-v rr blk STN,fr-g slow dif-tr mod fast stmg CUT"

7200.00 7230.00 "LS pred dns,tt,sl ool,occ chk-plty PKST AA,w/incr & bcmg ooc-oom GRNST w/depth,incr ool-intxl POR,fr dull-bri yel FLOR,tr-fr ltbrn-brn-tr blk STN,fr-g slow dif-mod fast stmg CUT"

7230.00 7260.00 "LS tan-ltbrn,occ crm-wh,crpxl-vfxl,occ gran-micsuc,intbd dns tt occ chk-plty v sl ool chty PKST & ooc-oom GRNST,sl anhy-tr POR fl,tr-fr intxl-tr ool POR,fr dull-bri yel FLOR,tr ltbrn STN-v rr blk dd o STN,fr-g slow dif-mod fast stmg CUT"

7260.00 7280.00 "LS tan-ltbrn,occ crm-wh,rr brn,micxl-vfxl,gran-micsuc ip,occ crpxl,pred ooc-oom GRNST,tr scat dns occ chk plty v sl ool PCKST,sl anhy-tr ANHY fl POR,v rr tnsl CHT frag,fr ool-g intxl POR,fr-g bri-dull yel FLOR,fr ltbrn-tr brn-spty blk STN,CUT AA"

7280.00 7310.00 "LS AA,pred ooc-oom GRNST,w/rr scat thn PKST AA,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-rr brn STN,rr-tr blk dd o STN,fr-g mod fast-rr fast stmg CUT"

7310.00 7340.00 "LS AA,POR-FLOR-STN-CUT AA"

DEPTH	LITHOLOGY

7340.00 7360.00 "LS tan-ltbrn,occ crm-wh,rr brn,micxl-vfxl,gran-micsuc ip,occ crpxl,pred ooc-oom GRNST,sl incr dns occ chk plty sl ool PCKST,anhy-rr ANHY fl POR,v rr tnsl CHT frag,fr-g ool-intxl POR,fr-g bri-dull yel FLOR,fr ltbrn-tr brn-rr blk STN,fr-g mod fast stmg CUT"

7360.00 7390.00 "LS AA,pred ooc-oom GRNST,rr scat dns sl ool PKST AA-incr w/depth,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-rr brn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

7390.00 7420.00 "LS tan-ltbrn,occ crm-wh,crpxl-vfxl,occ gran-micsuc,intbd dns tt occ chk-plty v sl ool chty PKST & ooc-oom GRNST,sl anhy-rr ANHY fl POR,rr CHT frag,fr-g intxl-fr ool POR,fr dull-tr bri yel FLOR,fr ltbrn STN-rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

7420.00 7450.00 "LS AA,pred ooc-oom GRNST,w/rr scat PKST AA,rr CALC xl,POR-FLOR-STN-CUT AA"

7450.00 7478.00 "LS tan-ltbrn,occ crm-wh,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,w/rr thn sl ool v sl chty chk ip PKST,sl anhy-rr ANHY fl POR,rr CHT frag,v rr CALC xl,fr-g intxl-fr ool POR,fr dull-tr bri yel FLOR,fr ltbrn-rr-tr blk STN,fr-g mod fast-fast stmg CUT"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-32 NW 1-A HORIZONTAL LATERAL LEG #2

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4835'
LOWER ISMAY		5560'	5556'	-721'
GOTHIC SHALE		5617'	5599'	-764'
DESERT CREEK		5652'	5617'	-781'
DC 1-A ZONE		5674'	5622'	-787'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S. Inc., Ratherford Unit #18-32 Northwest Horizontal Lateral Leg #2 was a re-entry of the Mobil Ratherford Unit #18-32 located in Section 20, T41S, R24E. The southwest Lateral Leg #2 was begun on November 30, 1997. After completing drilling of the lateral leg #2, milling was begun on December 1st. The curve section was completed on December 2, 1997 at a measured depth of 5707', 5625.5' true vertical depth, 3.5 feet into the 1-A porosity and the lateral section was begun in the 1-A porosity zone on December 3, 1997. The lateral reached a measured depth of 7478', true vertical depth of 54621', with a horizontal displacement of 1914.5' and true vertical plane of 307 degrees, on December 6, 1997 in the upper Desert Creek 1-A zone. The no significant problems were encountered while drilling this lateral, with only very minor water flows were encountered almost as soon as the 1-A zone was penetrated. This lateral used fresh water with polymer sweeps as the drilling fluid, with oil added to the drilling fluid to facilitate the rotating and sliding of the drill pipe. The background gases noted on the accompanying mud log were only moderately high through out the lateral section, which increased due to the oil added to the drilling fluid. The samples had good oil shows through out the 1-A zone drilled.

The primary objective of the Ratherford Unit #18-32 Leg 2 horizontal lateral was the effective porosity, staining and reservoir properties in the 1-A zone of the Desert Creek Member of the Upper Paradox Formation. The very basal portion of the Upper Ismay, the Lower Ismay, the Gothic Shale and the transition zone at the top of the Desert Creek were penetrated while drilling the curve section. The curve was landed feet into the 1-A porosity horizon. Kick off point for this lateral was at a measured depth of 5504', 5504' true vertical depth, in the upper middle of the Upper Ismay member of the Paradox Formation.

The Upper Ismay seen in the curve section of this well was predominately white to cream to tan, occasionally brown, cryptocrystalline to microcrystalline, chalky to clean and slightly argillaceous to occasionally slightly dolomitic and with scattered marly streaks, and had scattered anhydrite crystals and occasional fracture filling. Through out the Upper Ismay were thin interbedded brown, microcrystalline, limy, argillaceous to clean dolomites. Dark brown to smoky gray to tan chert fragments and thin interbeds of dark gray to black shale were also noted in Upper Ismay. No visible staining or gas increases and only mineral fluorescence were noted in the scattered very thin porosity streaks. The Hovenweep marker between the Upper Ismay and Lower Ismay was very poorly developed in this lateral.

The top of the Lower Ismay was picked at 5560' measured depth, 5556' true vertical depth, and was based primarily on the slight change in lithology as well as comparison to the well log for the original well bore. The Lower Ismay was predominately limestone, light to medium gray brown to brown to cream, occasionally white, cryptocrystalline to microcrystalline, dense, occasionally to slightly chalky, slightly fossiliferous and slightly silty. Scattered through out the Lower Isamy were brown to translucent chert and thin black carbonaceous shale partings. No shows were noted in these limestones. In the limestones near the base of the Lower Ismay, cream to light gray, slightly sandy, very limy siltstones were noted as very thin interbeds and laminations. These siltstones had a very limestone rich cement and graded to a very silty to very slightly sandy limestone but displayed no shows. The lower 5' of the Lower Ismay to the top of the Gothic Shale, had limestones which were became increasingly shaley and graded to a medium brown to medium gray, dense, slightly anhydritic, increasingly shalely, dark brown to gray brown, cryptocrystalline, very argillaceous to clean, dense dolomite and very limy to dolomitic shale. These basal limestones and dolomites had no sample shows.

The top of the Gothic Shale was encountered at 5617' measured depth, 5599' true vertical depth and was predominantly gray brown to black, silty, carbonaceous, soft to moderately firm, calcareous to slightly dolomitic and slightly micaceous. Scattered within the Gothic were very thin, cryptocrystalline to microcrystalline, earthy, limestone and dolomite partings and inclusions, with very rare scattered anhydrite crystals. The top of the Gothic was a fairly gradational contact with no visible decrease or increase in penetration rate noted. The base of the Gothic was marked by an abrupt decrease in penetration rate as well as a sharp lithology change. The top of the Gothic was marked by a slight increase in shale in the samples

The top of the Desert Creek is commonly picked at the Gothic Shale to transition zone facies change, which in this lateral occurred at a measured depth of 5652' and a true vertical depth of 5615' and was marked by a significant decrease in penetration rate and marked increase in limestones and thinly interbedded dolomites in the samples. The lithology of the transition zone in this well was primarily limestone tan to brown to light gray, cryptocrystalline to microcrystalline, platy, argillaceous to very slightly silty in part, slightly anhydritic with occasional carbonaceous shale partings. Also thin interbedded brown, cryptocrystalline to microcrystalline, argillaceous, very limy dolomites were seen. Only very minor intercrystalline porosities were noted, with only a very spoty weak mineral fluorescence. A minor gas increase was noted at the very base of the transition zone, just at the top of the 1-A porosity zone.

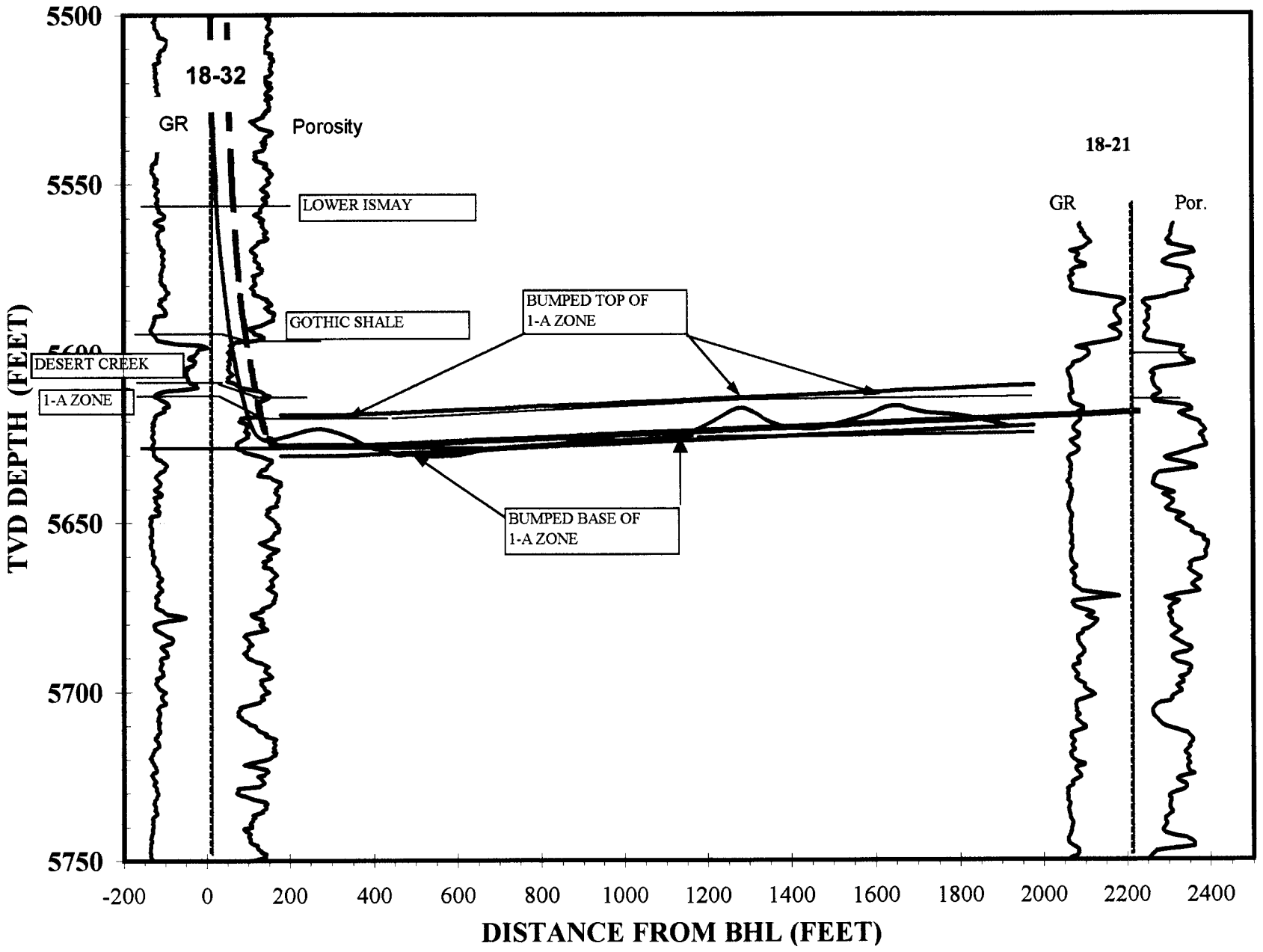
The top of the Desert Creek 1-A zone was picked at 5674' measured depth, 5622' true vertical depth and was based on sample identification as well as the significant increase in the penetration rate. The top of the 1-A zone was approximately 8' low to the top on the porosity log for this well. The porosity of the 1-A zone was in an oolicastic to oomoldic limestone grainstone, which was tan to brown to dark brown to gray brown, very fine to cryptocrystalline, with a granular to microsucrosic to traces of sucrosic texture, very rare scattered translucent to clear chert fragments were noted, scattered anhydrite crystals to inclusions and some porosity filling, with a dolomite rich cement and had a well developed oomoldic to oolicastic to intercrystalline and some algal porosity development. Light brown to brown stain, with a trace to abundant black bitchimum (dead oil staining) staining was noted in the samples along with a good yellow gold fluorescence and a moderately fast to fast streaming to milky cut was noted through out the length of the lateral. As the lateral was continued, the amounts of bitchimum (dead oil staining) appeared to decrease. Scattered with in the very good, porous oolitic grainstones were thin, tight, dense, slightly oolictic limestone packstones, white to cream with no to visible porosity development and had no visible sample show.

The curve section was completed at a measured depth of 5707', 5525.5' true vertical depth, and a vertical section (horizontal displacement) of 146', in the oolicastic to oolmoldic limestone grainstone porosity, approximately 3' above the proposed target line, with a 91-degree angle. The well bore was slowly turned toward a 90 degree angle and then slowly turned downward to maintain the best porosity of the 1-A zone, as the proposed target line was at or near the very base of the porosity zone. The lateral section was drilled through out its length in the porosity zone of the 1-A. The lithology of the 1-A porosity zone through out its length in the lateral remained fairly consistent with only very minor variations in porosity type being noted. The lithology of the 1-A was a light to medium brown, occasionally dark brown to gray brown, micro to very finely crystalline, microsucrosic to occasionally sucrosic, oolicastic to oomoldic to some algal limestone grainstone, with very rare scattered anhydrite crystals to inclusions and some porosity filling, slightly dolomitic, with a trace of dolomite rich cement, and very thin, scattered cream to tan, cryptocrystalline, occasionally oolitic to very slightly fossiliferous limestone packstone inclusions to laminations.

The 1-A porosity zone had good visible porosity and a good sample show through its length. Of note was that the well flowed oil, gas and minor amounts of water while drilling the lateral, beginning almost as soon as the top of the 1-A zone was penetrated. After landing the curve, the lateral section of the 1-A, the well began flowing very minor amounts of water. The back ground gas in the lateral was only moderately high, with the background gases increasing as oil was added to the drilling fluid at a measured depth of 6650'. Through out the length of the lateral drilled in the 1-A, the oolicastic to oolimoldic limestone grainstones were consistent. The top of the 1-A was encountered at a measured depth of 5814', 5622' true vertical depth, with a horizontal displacement of 252', at 6825', 5616' true vertical depth, with a horizontal displacement of 1277' and again at a measured depth of 7190', at a true vertical depth of 5616', with a horizontal displacement of 1625'. This determination was made due to the penetration rate and the quality of porosity decreasing significantly, as well as the amount of packstone increasing. The base of the 1-A was encountered and scraped along only once, which was at a measured depth of 6145', a true vertical depth of 5630', with a horizontal displacement of 582' while drilling the lateral. The best drilling and porosity appeared to be 3 to 4 feet above the proposed target line through out the lateral. The limestone packstones at the top and base of the 1-A was predominately a cream to white to tan, cryptocrystalline to occasionally microcrystalline, ocasionally platy, chalky, dense, very slightly anhydritic, occasionally very slightly fossiliferous to very slightly oolictic, with very rare, very thin, scattered light brown to tan, microcrystalline to very finely crystalline limestone grainstone streaks. The tight limestone packstones had no visible sample shows, while the thin grainstones has poor to occasionally moderately fair sample show. The lithology remained the in the predominately oolicastic to oolmoldic limestone grainstones as the well path continued to its termination. The lateral was terminated, at a measured depth of 7478', 5621' true vertical depth and a horizontal displacement of 1914.5' on December 6, 1997.

In tracking the well bore through the 1-A porosity bench, the intercrystalline to oolicastic to oolmoldic and minor algal porosity was very good with only very minor changes in rock classification, from predominately intercrystalline and oolitic porosities in the limestone grainstones to the tight limestone packstones in thin laminations and inclusions with in the 1-A porosity zone as well as at the top of the zone. Sample shows were predominated good and stayed fairly consistent throughout the length of the lateral, until the top of the 1-A zone was penetrated. The background gases were low through the curve section, and began low in the lateral section and slowly increased through the length of the lateral. The background gas decreased slightly upon penetrating the packstones at the top and base of the 1-A zone and increased sharply as the oil was added to the drilling fluid. The effective or best porosity was associated with the oolicastic and oolmoldic to very minor algal limestone grainstone facies, which had fair to good intercrystalline to oolitic porosities. Very minor anhydrite plugging was noted throughout. The well produced only minor amounts of oil and gas with a very minor, very slow water flow while drilling the 1-A zone.

MOBIL, Ratherforn Unit #18-32, Northwest Laterals



Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 18-W-32
9. API Well No.: 43-037-15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2140' FNL & 1830' FEL
SEC. 18 T-41S, R-24E

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other HORIZONTAL DRILL	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:
LATERAL #1A1 929' SOUTH & 1049' EAST F/SURFACE SPOT
LATERAL #2A1 1258' NORTH & 1443' WEST F/SURFACE SPOT

RECEIVED
MAR 24 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Lisa Mosley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 03-18-98

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

04/23/98
RJK

DRILLED FOOTAGE CALCULATION FOR DIRECTIONAL AND HORIZONTAL WELLS

Unit, Well Name:	Ratherford Unit, Well 18-W-32
Surface Location:	2140' FNL, 1830' FEL, Sec. 18, T. 41S, R. 24E
API Well #:	43-037-15736
Well Completion:	Horizontal, Injector, 2 Laterals

First leg description:		Lateral #1
Kick Off Point	MD	5514.00
End of Leg	MD	6985.00
	Footage drilled:	1471.00
Max. TVD Recorded		5628.97

Second leg description:		Lateral #2
	KOP MD:	5496.00
	EOL MD:	7478.00
	Footage drilled:	1982.00
Max. TVD Recorded		5630.83

Total Footage Drilled (MD):	***3453.00***
Deepest point (TVD):	***5630.83***

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT - WELL #18-W-32
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH

11-07-97	MIRU NAVAJO WEST #15, RIG UP PUMP & LINES TO TANK & PIT. WELL HEAD PSI 1350# OPEN & FLOW TO TANK, FINAL WHP=35#. SI & SDFN.
11-08-97	12 HR SITP=300# FLOWED 2 HRS, KILL WELL, TEST CSG & BOP TO 1000#-HELD GOOD, 30 MIN. UNSET PKR TOH L/D 2 7/8" CMT LINED TBG & PKR, LEFT OPEN TO TANK NO FLOW
11-10-97	WELL OPEN-0# LD 20 CMT LINED TBG. MOVE FLOAT. SET RACKS UNLOAD & RACK TBG. RIG UP SCH W/L TIH W G/R THEN TIH W ARROW. CMT RET SET AT 5561'. R/D W/L PICK UP STINGER. TIH W 180 JTS & 13'. TAG INSTALL SUBS. CIRC HOLE W F/W. SI & SDFN
11-11-97	WAIT ON DOWELL. RIG UP STING IN RET. EST INJ RATE -3BPM-700PSI. SQ W 125 SKS CL-G 4% D-165 F/L-TAIL 75SKS CL-G NEAT STAGE IN 4 STAGES FINAL SQ PSI 1125# HELD 15 MIN REV TWICE TOH LAYING DOWN ALL TBG & STINGER PREP FOR W/H CHANGE
11-12-97	NDBOP & TBG HEAD PICK UP 55" REMOVE SLIPS SET DOWN CUT OFF SURF HEAD WELD ON NEW NAT 8.625'X 11" PICK UP 5.5" RESET SLIPS W 50M INSTALL NEW NAT 11"-3M X 7.0625"-3M. TEST TO 1000# INSTALL TOP FLANGE W 2"VALVE. FINAL PREP WORK.
11-23-97	NOTIFIED JIM THOMPSON W/ STATE UTAH @ 13:00 NOVEMBER 23, 1997 ABOUT STARTING WORK ON RATHERFORD UNIT 18-W-32.WAITED ON DAYLIGHT & MOVED RIG TO RATHERFORD UNIT 18-W-32, 75% RIGGED UP.
11-24-97	NU HYDRILL & BOP, SINGLE JACK PRESS TESTED TO 2000# HIGH, 250# LOW FOR MMS TEST, TESTED OK. BASIN WL RIH LATERAL 1A1 W/ 5 1/2" TIW FULL BORE WHIPSTOCK PKR @ 5529'. RIH W/ANCHOR LATCH KEYWAY, UBHO SUB, 1 JT 2.875' AOHDP, 18.4" DC'S & 2 7/8"AOHDP, LATCHED ONTO PACKER @ 5529'. GYRO DATA RIH W/ GYRO, PKR KEYWAY SET @ 141 GTF, POH W/ GYRO RUNNING GYRO SURVEY EVERY 200'.
11-25-97	TOOH W/ORIENT SUB AND ANCHOR LATCH. PU WHIPSTOCK AND RIH. LATCH INTO PKR AT 5529'. MILL W/ STARTER MILL. POOH. RIH W/ CSG. AND WATERMELON MILL. START MILLING ON CSG. WINDOW FROM 5512-5519'.
11-26-97	PU CURVE BUILDING ASSY. ORIENT. TIME DRILL AND DRILL FROM 5553-5580' AND SURVEYS W/ GYRO. RD GYRO. FINISH MILLING WINDOW FROM 5519-5521' (1 FORMATION) PUMP SWEEP. TOOH LAYING DOWN 14 JNTS. AOHDP AND MILLS.
11-27-97	CONTINUE TO DRILL CURVE SECTION FROM 5580 TO TD 5681' MD. PROJECTED AT TD., 90 ANGLE, 130 AZ., 5618.10 TVD, 97.76 VERT. SECTION. PUMP SWEEP AND CIRC.OUT. POOH LAYING DOWN 41 JNT OAHDP. LAY DOWN CURVE BUILDING ASSY. PU LATERAL ASSY. AND DRILL FROM 5681-5704',
11-28-97	SLIDE/DRILL FROM 5704-5820' (SLOW DRLG. AVG. 7' HR.) SLIDE/ROTATE DRILL AND SURVEYS FROM 5820-6260'. HIT GOOD POROSITY AT 5820+ (AVG. 31' HR.)
11-29-97	SLIDE/ROTATE DRILL AND SURVEYS FROM 6260-6985' (TD) PUMP SWEEP AND CIR. OUT. POOH LAYING DOWN DIR. TOOLS.

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT - WELL #18-W-32
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH
PAGE 2

11-30-97	PU SUPER HOOK, ENGAGE WS. UNABLE TO PULL FREE. RELEASE FROM WS. POOH. PU JARS. TIH ENGAGE WS. SHEAR PIN IN SHEAR SUB. POOH W/WS AND UPPER PART OF SHEAR SUB. TIH W/O/S BS, JARS ENGAGE FISH. POOH FULL RECOVERY.
12-01-97	RIH W/WS. #2 ASSY. LATCH INTO PKR. AT 5529'. SHEAR OFF BOLT ON STARTING MILL AND MILL LATERAL #2A1 F/5496-5498'. POOH LAY DOWN MILL. PU CSG. MILL AND WATERMELON MILL. MILL WINDOW FROM 5495.50/5504'. POOH LAY DOWN MILLS. SHUT DOWN FOR RIG REPAIRS.
12-02-97	RIG REPAIR, POH W/ MILL, RIH W/ CURVE ASSEMBLEY, RUN GYRO, DRILLED CURVE LATERAL #2A1 FROM 5504-5550'
12-03-97	DRILLED LATERAL #2A1 FROM 5550-5664'
12-04-97	DRILLED CURVE FROM 5664', LANDED CURVE @ 91 ANGLE, 305 AZ, 5625.53 TVD, 145VS., POH W/ CURVE ASSEMBLY, RIH W/ LATERAL ASSEMBLY, DRILLED LATERAL 2A1 FROM 5684-6060'.
12-05-97	DRILL LATERAL 2A1 FROM 6060-6832'
12-06-97	DRILLED LATERAL 2A1 FROM 6832-7478', TD, 88.2 DEG ANGLE, 307 DEG DIRECTION, 5621.52 TVD,CIRC HOLE CLEAN
12-07-97	CIRC HOLE CLEAN, POH & LD MUD MOTOR, RIH & SET RBP @ 5303', CIRC HOLE W/ 10# BRINE. POH W/ SETTING TOOL, ND BOP, CLEAN PITS, RIG DOWN
12-08-97	FIN RIGGING DOWN RIG, WAIT ON DAYLIGHT, REL RIG @ 12 MIDNIGHT

COMPLETION:

12-10-97	COMPLETION: MIRU UNIT & AUX EQUIPT NUBOP PICK UP RET HEAD & TBG TIH LATCH ON REL & RETRIEVE RBP AT 5303' TOH W STBH & RBP PICK UP 11 JTS 2.7/8" PH-6 TBG, GUIB-UNI-VI PKR TIH W 56 JTS 2.7/8" TBG SI & SDFN
12-11-97	LATERAL #2A1, FINISH TIH W/ TBG, SET PKR AT 5365.68', R/U DOWELL C/T UNIT TIH & ACIDIZE W 565 BBLS 15% HCL ACID W ADDITIVES 3.1-3.5 BPM 3340#-3950# AVG RATE & PSI SIP END OF JOB=960#, OPEN WELL TO TANKS FLOW BACK
12-12-97	4.5 HR SITP = 525 OPEN 7 FLOW DOWN KILL WELL W 25 BBLS 10# UNSET PKR TOH P/U S/H TIH LATCH INTO W/S WORK & JAR SHEARED W/S AT SHEAR SUB TOH TIH W 20 STND FOR KILL STRING SI & SDFN
12-13-97	TOH W KILL ST TIH W O/S & REST OF FISHING TOOLS LATCH ON LOWER PART OF W/S WORK W JARS F& B/S UNTIL W/S FREE TOH LAY DOWN F/T'S ALIGN RE-ENTRY GUIDE ACCORDING TO PKR SET OF 141 DEG, LAT 1A1-133 DEG, TIH SET TOH W 122 JTS LEFT K/S, SI & SDFN
12-14-97	FINISH TOH W TBG & RET HEAD FOR R/E GUIDE TIH WITH PH-6 T/P, PKR, & 2.7/8" SET PKR AT 5402.17' - BOTTOM OF T/P AT 5902.47', TEST PKR TO 500# HELD.
12-15-97	WELL DEAD RIG UP DOWELL CTU TIH PUMP 2.6 BPM @ 3750# FW FROM 5890-6987' WHILE TIH FLOW BACK 30 MIN ACIDIZE LATERAL #1A1 F/5890-6985' W 362 BBLS 15% HCL AVG 4.1 BPM- 3800# WHILE PULLING C/T 12-15MIN/FT R/D CTU FLOW WELL TO TANK FOR PH OF 7.

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT - WELL #18-W-32
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH
PAGE 3

12-16-97	SHUT IN TBG PRESSURE AT 7:30 WAS 0 PSI. MOVE IN RIG UP COILED TBG UNIT. RIH W/1.75" COILED TBG TO 6985'. CIRC AT 3 BBLS PER/MIN. FROM 5890' TO 6985' AT 3750 PSI. FLOW WELL TO PIT .5 HOURS. WELL DEAD. WHILE RUNNING IN HOLE ACIDIZE LATERAL #1A1 FROM 6985' TO 5890' WITH 15,204 GAL OF 15% HCL ACID. POH. WILL SHUT IN 1 HOUR. FLOW WELL TO TEST TANK 4.5 HOURS. SIFN
12-17-97	SHUT IN TBG. PRESSURE AT 6:00 WAS 800 PSI. OPEN WELL TO TEST TANK ON .75 CHOKE. FLOW WELL 2 HOURS. RECV. 210 BBLS OF FLUID, RIG UP AND KILL WELL WITH 32 BBLS OF KILL FLUID. RELEASE PACKER AND POH. LAY DOWN PACKER. RIH WITH RETV. TOOLS FOR WHIPSTOCK. POH RIH WITH OVERSHOT.
12-18-97	SHUT IN PRESSURE AT 7:30 WAS 70PSI. BLEED TO 0 IN 2MIN. RECV. DRY GAS. RIH WITH OVERSHOT TO 5514'. LATCH ONTO WHIPSTOCK. RELEASE WHIPSTOCK. POH. LAY DOWN WHIPSTOCK AND BHA. RIH WITH PH-6 TAIL PIPE. POH AND LAY DOWN. RIH WITH GUIBERSON PRODUCTION PACKER TO 5407.07'. DISPLACE HOLE WITH PACKER FLUID. SHUT WELL IN.
12-19-97	SHUT IN PRESSURE AT 7:30 WAS 0 PSI. RIG UP TO PUMP. TEST PRODUCTION PACKER TO 759 PSI. OK. POH AND LAY DOWN WORK STRING. NIPPLE DOWN BOPE. NIPPLE UP WELL HEAD CAP. TEMPORARILY SUSPEND COMPLETIONS OPERATIONS. WILL RETURN AT LATER DATE TO RUN CMT. LINED PRODUCTION TBG. AND NIPPLE UP PRODUCTION TREE. WELL SHUT IN RIG DOWN MOVE OFF.
01-19-98	MOVE IN RIG UP NAVAJO WEST RIG #15. SHUT IN CSG. PRESSURE AT 9:30 WAS 0 PSI. NIPPLE DOWN PRODUCTION HEAD. NIPPLE UP BOPE. SHUT IN FOR NIGHT.
01-20-98	SHUT IN CSG. PRESSURE AT 7:30 WAS 0 PSI. PICK -UP AND RIH WITH GUIBERSON ON/OFF TOOL, PICK-UP AND RIH WITH 2 7/8" CMT. LINED TBG. TO 5407.17'. DRIFT TBG. WHILE RUNNING IN HOLE. POH TO 5370' SIFN
01-21-98	SHUT IN PRESSURE AT 7:30 WAS 0 PSI. SPACE OUT 2.7/8" CMT. LINED TBG. PICK-UP LANDING JOINT. RIH TO 5392'. LATCH ONTO PACKER. SET WITH 14000# COMP. TOP @ 5392'. NIPPLE DOWN BOPE. SET PACK-OFF. NIPPLE UP PRODUCTION TREE. TEST OK. RIH AND RECV. 'F' NIPPLE PLUG. RIG DOWN MOVE OFF NAVAJO WEST RIG #15. WELL TURNED TO PRODUCTION.

sperry-sun

DRILLING SERVICES

A DRESSER INDUSTRIES, INC. COMPANY

Mobil
San Juan County
Utah
Ratherford Unit
RU 18-32 - MWD Survey Leg 1

SURVEY REPORT

6 January, 1998

Survey Ref: svy2260

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Gyro							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
100.00	0.390	45.140	100.00	0.24 N	0.24 E	0.01	0.390
300.00	0.010	202.500	300.00	0.70 N	0.72 E	0.04	0.200
500.00	0.320	208.750	500.00	0.20 N	0.44 E	0.19	0.155
700.00	0.270	192.060	699.99	0.75 S	0.07 E	0.57	0.049
900.00	0.520	254.100	899.99	1.46 S	0.90 W	0.34	0.230
1100.00	0.870	261.830	1099.97	1.93 S	3.27 W	-1.08	0.181
1300.00	0.830	262.040	1299.95	2.34 S	6.21 W	-2.94	0.020
1500.00	0.650	266.290	1499.94	2.62 S	8.78 W	-4.63	0.094
1700.00	0.250	270.240	1699.93	2.69 S	10.35 W	-5.73	0.200
1900.00	0.200	264.700	1899.93	2.72 S	11.13 W	-6.29	0.027
2100.00	0.070	190.510	2099.93	2.87 S	11.50 W	-6.45	0.097
2300.00	0.230	195.450	2299.93	3.38 S	11.63 W	-6.20	0.080
2500.00	0.270	94.840	2499.93	3.80 S	11.27 W	-5.64	0.193
2700.00	0.330	93.380	2699.92	3.88 S	10.22 W	-4.83	0.030
2900.00	0.710	22.250	2899.92	2.77 S	9.18 W	-4.83	0.340
3100.00	0.920	24.660	3099.90	0.16 S	8.04 W	-5.77	0.106
3300.00	0.810	14.080	3299.87	2.67 N	7.02 W	-6.96	0.097
3500.00	0.940	9.520	3499.85	5.66 N	6.41 W	-8.55	0.074
3700.00	0.960	24.350	3699.82	8.80 N	5.45 W	-9.99	0.123
3900.00	0.760	43.800	3899.80	11.29 N	3.84 W	-10.51	0.176
4100.00	0.650	58.650	4099.79	12.84 N	1.95 W	-10.18	0.106
4300.00	0.600	64.340	4299.77	13.88 N	0.04 W	-9.49	0.040
4500.00	0.610	51.550	4499.76	15.00 N	1.74 E	-8.95	0.068
4700.00	0.620	40.560	4699.75	16.48 N	3.28 E	-8.84	0.059
4900.00	0.770	53.310	4899.74	18.10 N	5.06 E	-8.65	0.107
5100.00	0.720	38.490	5099.72	19.89 N	6.92 E	-8.51	0.099
5300.00	0.830	44.910	5299.70	21.90 N	8.72 E	-8.56	0.070
5500.00	0.970	50.600	5499.68	24.00 N	11.05 E	-8.28	0.083
MWD Survey Leg 1							
5514.00	0.830	58.180	5513.67	24.13 N	11.23 E	-8.24	1.311
5521.00	4.200	125.850	5520.67	24.01 N	11.48 E	-7.97	56.567
5531.00	9.600	132.320	5530.59	23.23 N	12.40 E	-6.78	54.472
5541.00	15.400	134.100	5540.35	21.74 N	13.97 E	-4.61	58.121
5551.00	21.100	125.700	5549.85	19.77 N	16.39 E	-1.50	62.638
5561.00	26.700	120.100	5558.99	17.59 N	19.79 E	2.48	60.363
5571.00	32.400	115.900	5567.68	15.29 N	24.15 E	7.24	60.616
5581.00	38.300	114.900	5575.83	12.81 N	29.38 E	12.75	59.281
5591.00	43.900	115.700	5583.37	10.00 N	35.32 E	19.01	56.245
5601.00	49.300	117.000	5590.24	6.77 N	41.82 E	25.97	54.818

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5611.00	55.200	118.500	5596.36	3.09 N	48.82 E	33.59	60.177
5621.00	60.600	120.500	5601.67	1.08 S	56.18 E	41.83	56.591
5631.00	64.800	122.800	5606.25	5.75 S	63.74 E	50.54	46.705
5641.00	68.300	126.200	5610.23	10.94 S	71.30 E	59.61	46.877
5651.00	72.600	129.400	5613.58	16.72 S	78.74 E	68.99	52.514
5657.00	76.100	129.700	5615.20	20.40 S	83.19 E	74.76	58.532
5681.00	87.200	127.200	5618.68	35.13 S	101.76 E	98.39	47.381
5706.00	87.600	131.300	5619.81	50.93 S	121.10 E	123.30	16.461
5737.00	89.800	134.600	5620.52	72.05 S	143.78 E	154.29	12.791
5768.00	89.900	135.800	5620.60	94.04 S	165.62 E	185.27	3.884
5799.00	88.400	136.500	5621.06	116.39 S	187.10 E	216.21	5.340
5830.00	86.100	137.200	5622.55	138.98 S	208.27 E	247.11	7.755
5863.00	86.200	135.800	5624.76	162.87 S	230.94 E	279.97	4.244
5894.00	86.400	133.900	5626.76	184.68 S	252.87 E	310.89	6.150
5926.00	88.900	133.300	5628.07	206.73 S	276.02 E	342.86	8.034
5958.00	89.100	134.000	5628.63	228.81 S	299.17 E	374.85	2.275
5990.00	89.700	133.700	5628.97	250.98 S	322.24 E	406.84	2.096
6021.00	90.400	133.100	5628.94	272.28 S	344.77 E	437.84	2.974
6053.00	90.400	132.600	5628.72	294.04 S	368.23 E	469.84	1.562
6084.00	90.500	132.600	5628.47	315.03 S	391.05 E	500.84	0.323
6116.00	90.400	132.600	5628.22	336.68 S	414.60 E	532.84	0.313
6148.00	89.800	132.800	5628.17	358.39 S	438.12 E	564.84	1.976
6179.00	91.200	133.100	5627.90	379.51 S	460.81 E	595.84	4.619
6211.00	90.800	133.000	5627.34	401.35 S	484.19 E	627.83	1.288
6242.00	90.400	132.100	5627.01	422.31 S	507.02 E	658.83	3.177
6274.00	90.700	132.100	5626.71	443.76 S	530.76 E	690.82	0.938
6306.00	92.700	132.600	5625.76	465.31 S	554.40 E	722.80	6.442
6338.00	93.400	133.000	5624.05	487.02 S	577.85 E	754.76	2.519
6370.00	93.200	132.800	5622.21	508.77 S	601.25 E	786.71	0.883
6401.00	90.800	133.500	5621.13	529.95 S	623.85 E	817.68	8.064
6433.00	88.200	133.300	5621.41	551.94 S	647.10 E	849.68	8.149
6464.00	88.300	133.100	5622.36	573.15 S	669.69 E	880.66	0.721
6496.00	89.700	133.900	5622.91	595.17 S	692.89 E	912.66	5.039
6528.00	88.900	133.300	5623.30	617.24 S	716.07 E	944.65	3.125
6560.00	88.900	132.800	5623.92	639.08 S	739.45 E	976.65	1.562
6592.00	88.200	131.600	5624.73	660.57 S	763.14 E	1008.63	4.340
6623.00	88.400	131.700	5625.65	681.16 S	786.30 E	1039.61	0.721
6655.00	89.600	130.700	5626.21	702.23 S	810.37 E	1071.59	4.881
6687.00	90.200	131.000	5626.26	723.16 S	834.58 E	1103.57	2.096
6719.00	91.600	132.300	5625.76	744.43 S	858.48 E	1135.55	5.970
6750.00	93.400	132.100	5624.41	765.23 S	881.42 E	1166.52	5.842
6782.00	94.700	132.800	5622.15	786.77 S	904.98 E	1198.44	4.611
6813.00	93.000	133.500	5620.07	807.92 S	927.54 E	1229.36	5.929
6845.00	89.300	134.200	5619.42	830.09 S	950.61 E	1261.35	11.767
6877.00	88.000	134.900	5620.18	852.53 S	973.41 E	1293.33	4.614

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6909.00	87.500	135.300	5621.43	875.18 S	995.98 E	1325.28	2.000
6950.00	88.400	135.600	5622.90	904.38 S	1024.72 E	1366.22	2.314
6985.00	88.400	135.600	5623.88	929.37 S	1049.20 E	1401.17	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100ft.
Vertical Section is from Well and calculated along an Azimuth of 133.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 6985.00ft.,
The Bottom Hole Displacement is 1401.63ft., in the Direction of 131.534° (True).

sperry-sun

DRILLING SERVICES

A DRESSER INDUSTRIES, INC. COMPANY

Mobil
San Juan County
Utah
Ratherford Unit
RU 18-32 - MWD Survey Leg 2

SURVEY REPORT

6 January, 1998

Survey Ref: svy2262

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Gyro							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
100.00	0.390	45.140	100.00	0.24 N	0.24 E	-0.02	0.390
300.00	0.010	202.500	300.00	0.70 N	0.72 E	-0.08	0.200
500.00	0.320	208.750	500.00	0.20 N	0.44 E	-0.20	0.155
700.00	0.270	192.060	699.99	0.75 S	0.07 E	-0.55	0.049
900.00	0.520	254.100	899.99	1.46 S	0.90 W	-0.28	0.230
1100.00	0.870	261.830	1099.97	1.93 S	3.27 W	1.21	0.181
1300.00	0.830	262.040	1299.95	2.34 S	6.21 W	3.15	0.020
1500.00	0.650	266.290	1499.94	2.62 S	8.78 W	4.91	0.094
1700.00	0.250	270.240	1699.93	2.69 S	10.35 W	6.04	0.200
1900.00	0.200	264.700	1899.93	2.72 S	11.13 W	6.62	0.027
2100.00	0.070	190.510	2099.93	2.87 S	11.50 W	6.79	0.097
2300.00	0.230	195.450	2299.93	3.38 S	11.63 W	6.56	0.080
2500.00	0.270	94.840	2499.93	3.80 S	11.27 W	6.01	0.193
2700.00	0.330	93.380	2699.92	3.88 S	10.22 W	5.17	0.030
2900.00	0.710	22.250	2899.92	2.77 S	9.18 W	5.11	0.340
3100.00	0.920	24.660	3099.90	0.16 S	8.04 W	5.96	0.106
3300.00	0.810	14.080	3299.87	2.67 N	7.02 W	7.05	0.097
3500.00	0.940	9.520	3499.85	5.66 N	6.41 W	8.55	0.074
3700.00	0.960	24.350	3699.82	8.80 N	5.45 W	9.89	0.123
3900.00	0.760	43.800	3899.80	11.29 N	3.84 W	10.30	0.176
4100.00	0.650	58.650	4099.79	12.84 N	1.95 W	9.89	0.106
4300.00	0.600	64.340	4299.77	13.88 N	0.04 W	9.13	0.040
4500.00	0.610	51.550	4499.76	15.00 N	1.74 E	8.52	0.068
4700.00	0.620	40.560	4699.75	16.48 N	3.28 E	8.34	0.059
4900.00	0.770	53.310	4899.74	18.10 N	5.06 E	8.06	0.107
5100.00	0.720	38.490	5099.72	19.89 N	6.92 E	7.83	0.099
5300.00	0.830	44.910	5299.70	21.90 N	8.72 E	7.78	0.070
MWD Survey Leg 2							
5496.00	0.960	50.500	5495.68	23.95 N	10.99 E	7.42	0.080
5504.00	3.400	319.900	5503.67	24.17 N	10.89 E	7.64	44.280
5514.00	7.800	311.900	5513.62	24.85 N	10.19 E	8.61	44.581
5524.00	13.100	309.700	5523.45	26.03 N	8.82 E	10.43	53.140
5534.00	18.500	308.600	5533.07	27.75 N	6.70 E	13.15	54.081
5544.00	23.400	302.100	5542.41	29.79 N	3.78 E	16.69	54.162
5554.00	27.900	306.800	5551.42	32.25 N	0.22 E	20.99	49.353
5564.00	32.800	311.300	5560.05	35.44 N	3.69 W	26.04	53.988
5574.00	37.700	313.900	5568.21	39.35 N	7.93 W	31.80	51.237
5584.00	42.200	314.500	5575.88	43.83 N	12.53 W	38.21	45.164

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5594.00	45.200	309.600	5583.11	48.45 N	17.66 W	45.12	45.217
5604.00	47.300	304.200	5590.03	52.78 N	23.44 W	52.32	44.288
5614.00	51.900	301.700	5596.51	56.91 N	29.83 W	59.85	49.778
5624.00	56.900	300.900	5602.33	61.13 N	36.78 W	67.86	50.421
5634.00	61.000	302.100	5607.48	65.61 N	44.08 W	76.31	42.268
5644.00	64.200	305.300	5612.09	70.54 N	51.46 W	85.12	42.787
5654.00	67.700	307.900	5616.16	75.98 N	58.79 W	94.22	42.290
5664.00	71.900	307.900	5619.61	81.75 N	66.19 W	103.59	42.000
5674.00	76.800	307.200	5622.31	87.61 N	73.82 W	113.20	49.461
5684.00	82.100	306.600	5624.14	93.51 N	81.68 W	123.00	53.327
5707.00	91.000	305.200	5625.52	106.96 N	100.26 W	145.84	39.169
5732.00	91.800	308.900	5624.91	122.02 N	120.21 W	170.77	15.138
5763.00	91.700	312.400	5623.96	142.20 N	143.71 W	201.75	11.290
5795.00	92.700	313.700	5622.74	164.03 N	167.08 W	233.71	5.123
5827.00	89.500	314.200	5622.12	186.23 N	190.11 W	265.65	10.121
5859.00	87.000	315.100	5623.10	208.70 N	212.86 W	297.57	8.303
5891.00	86.600	316.100	5624.89	231.53 N	235.21 W	329.42	3.361
5923.00	86.700	316.300	5626.76	254.59 N	257.33 W	361.23	0.698
5954.00	86.700	314.400	5628.54	276.60 N	279.07 W	392.09	6.119
5986.00	87.600	314.600	5630.13	299.01 N	301.87 W	423.99	2.881
6018.00	89.900	314.200	5630.83	321.39 N	324.73 W	455.92	7.295
6050.00	90.800	314.700	5630.63	343.80 N	347.57 W	487.86	3.217
6081.00	90.700	313.700	5630.23	365.41 N	369.79 W	518.81	3.242
6113.00	89.700	312.300	5630.12	387.23 N	393.19 W	550.79	5.376
6145.00	90.600	311.700	5630.03	408.64 N	416.97 W	582.79	3.380
6176.00	91.100	310.700	5629.57	429.06 N	440.30 W	613.78	3.606
6208.00	91.600	310.900	5628.82	449.96 N	464.51 W	645.77	1.683
6239.00	90.400	310.200	5628.28	470.11 N	488.06 W	676.77	4.481
6271.00	90.400	310.200	5628.05	490.77 N	512.50 W	708.76	0.000
6303.00	90.400	310.300	5627.83	511.44 N	536.93 W	740.76	0.312
6335.00	91.200	310.200	5627.38	532.12 N	561.35 W	772.75	2.519
6366.00	89.900	309.800	5627.09	552.04 N	585.09 W	803.75	4.388
6398.00	90.700	309.800	5626.92	572.52 N	609.68 W	835.74	2.500
6429.00	91.400	309.800	5626.35	592.36 N	633.49 W	866.73	2.258
6461.00	91.200	310.300	5625.63	612.95 N	657.98 W	898.71	1.682
6493.00	90.200	310.300	5625.23	633.64 N	682.38 W	930.71	3.125
6525.00	89.000	310.500	5625.46	654.38 N	706.75 W	962.71	3.802
6557.00	89.200	310.200	5625.96	675.10 N	731.14 W	994.70	1.127
6588.00	90.700	311.000	5625.99	695.27 N	754.67 W	1025.70	5.484
6620.00	89.700	311.000	5625.88	716.27 N	778.82 W	1057.70	3.125
6651.00	90.200	311.200	5625.90	736.64 N	802.18 W	1088.70	1.737
6682.00	92.500	311.600	5625.17	757.14 N	825.43 W	1119.69	7.531
6713.00	92.900	310.700	5623.71	777.51 N	848.74 W	1150.65	3.174
6745.00	93.500	309.800	5621.93	798.16 N	873.13 W	1182.60	3.377
6776.00	93.600	309.100	5620.01	817.82 N	897.02 W	1213.53	2.277

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-32

Mobil
San Juan County

Utah
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6808.00	94.700	309.500	5617.69	838.03 N	921.72 W	1245.43	3.657
6840.00	91.000	309.500	5616.10	858.36 N	946.38 W	1277.37	11.562
6872.00	85.100	308.800	5617.19	878.54 N	971.17 W	1309.32	18.567
6903.00	85.700	309.500	5619.67	898.05 N	995.13 W	1340.21	2.969
6934.00	88.800	309.800	5621.16	917.80 N	1018.97 W	1371.16	10.047
6966.00	89.200	309.500	5621.72	938.22 N	1043.60 W	1403.14	1.562
6998.00	89.100	308.200	5622.19	958.29 N	1068.52 W	1435.12	4.074
7029.00	91.100	308.900	5622.14	977.61 N	1092.76 W	1466.09	6.835
7061.00	92.100	308.600	5621.25	997.63 N	1117.71 W	1498.05	3.262
7093.00	92.300	308.100	5620.02	1017.47 N	1142.79 W	1529.99	1.682
7125.00	91.600	308.400	5618.93	1037.27 N	1167.90 W	1561.94	2.380
7156.00	93.300	308.800	5617.60	1056.59 N	1192.10 W	1592.88	5.633
7189.00	93.000	308.400	5615.79	1077.15 N	1217.86 W	1625.80	1.514
7220.00	87.900	308.800	5615.55	1096.48 N	1242.07 W	1656.76	16.502
7252.00	88.200	309.600	5616.64	1116.70 N	1266.86 W	1688.73	2.669
7284.00	88.800	309.800	5617.47	1137.13 N	1291.47 W	1720.71	1.976
7316.00	89.900	309.500	5617.84	1157.55 N	1316.11 W	1752.70	3.563
7348.00	89.400	309.800	5618.03	1177.96 N	1340.74 W	1784.69	1.822
7379.00	88.300	309.100	5618.65	1197.66 N	1364.68 W	1815.67	4.206
7411.00	88.600	308.200	5619.52	1217.64 N	1389.66 W	1847.63	2.964
7443.00	88.200	307.200	5620.41	1237.20 N	1414.97 W	1879.56	3.365
7478.00	88.200	307.200	5621.51	1258.35 N	1442.83 W	1914.47	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100ft.
Vertical Section is from Well and calculated along an Azimuth of 311.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 7478.00ft.,
The Bottom Hole Displacement is 1914.47ft., in the Direction of 311.093° (True).

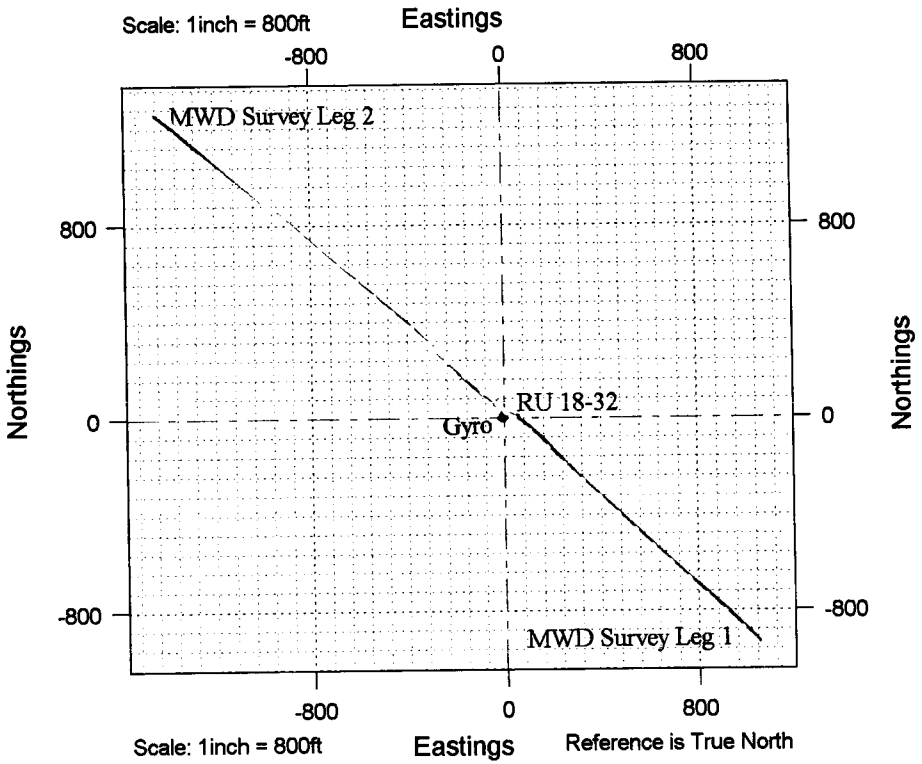
sperry-sun DRILLING SERVICES

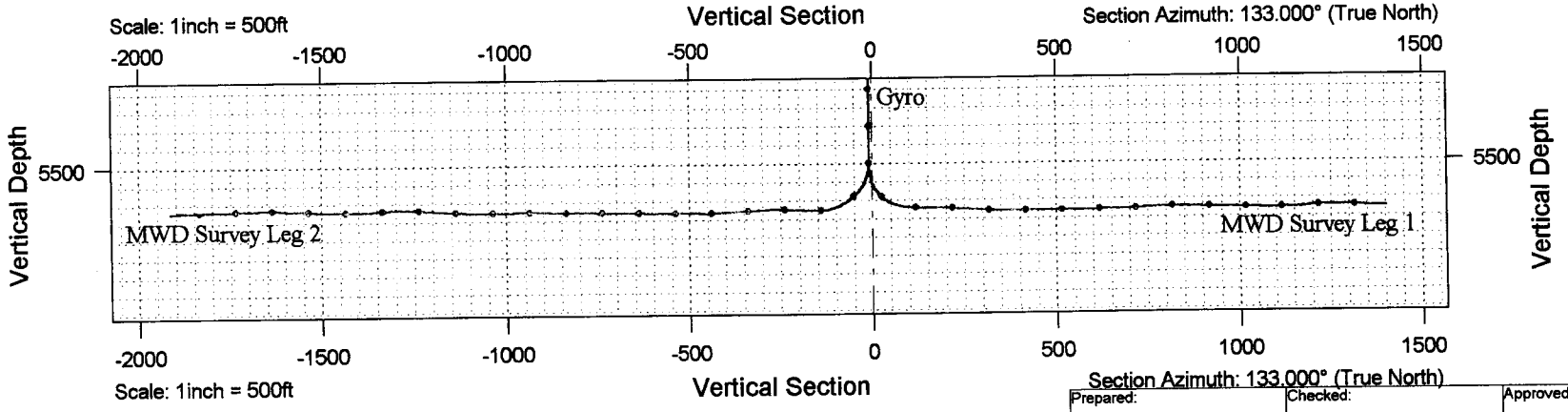
Mobil

DrillQuest

San Juan County
Utah
Ratherford Unit
RU 18-32 Leg #1 & Leg #2

Mobil





Prepared:	Checked:	Approved:

Form 3160-4
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0137
Expires: February 28, 1995

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO TRIBAL

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

8. FARM OR LEASE NAME, WELL NO.: RATHERFORD 18-W-32

9. API WELL NO.: 43-037-15736

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 18, T 41, R 24E

12. COUNTY OR PARISH: SAN JUAN

13. STATE: UT

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other X INJECTOR

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other X SIDETRACK

2. NAME OF OPERATOR: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. ADDRESS AND TELEPHONE NO.: P.O. Box 633, Midland TX 79702 (915) 688-2585

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 2140' FNL & 1830' FEL
At top prod. interval reported below
At total depth: *#37 THIS FORM

14. PERMIT NO. / DATE ISSUED

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
11-7-98	11-28-97	1-21-98		

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
**#37	**#37	NO	→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)*: **#37 DSCR

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN: NO

27. WAS WELL CORED: NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
8 5/8	24#	1590'	12 1/4	SURFACE	
5 1/2	14#	5813'		3590'	
ORIGINAL	CASING	UNDISTURBED			

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8"	5407'	5407'

RECEIVED
APR 23 1998
DIV. OF OIL, GAS & MINING

31. PERFORATION RECORD (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5890'-6985'	ACIDIZE LAT#1A1 W/362 BBLS 15%
	***#37

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump)	WELL STATUS (Producing or shut-in)
		SHUT-IN

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: DIRECTIONAL SURVEY

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Sue Moseley for TITLE SHIRLEY HOUCHINS/ENV & REG TECH DATE 3-18-98

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdicton.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
*#4			LAT #1A1 - 929' FSL & 1049' FEL, SURFACE SPOT LAT #2A1 - 1258' FNL & 1443' FWL, SURFACE SPOT
** #20			LAT #1A1-(5619'-5624' TVD) (5681'-6985' TMD) LAT #2A1-(5624'-5622' TVD) (5684'-7478' TMD)
*** #32	5890' 6832'	6985' 7478'	LAT #1A1- ACIDIZE W/15,204 GALS 15% HCL ACID LAT #2A1- ACIDIZE W/17,515 GALS 15% HCL ACID

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH

U.S. GOVERNMENT PRINTING OFFICE: 1992-774-672

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 18W-32
9. API Well No.: 43-037-15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
(SW/NE) 2140' FNL & 1830' FEL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other MIT TESTS	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SEE ATTACHED MIT AND CHART.

RECEIVED
MAY 11 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Lee Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 5-13-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*** See Instruction on Reverse Side**

ANNULAR PRESSURE TEST

(Mechanical Integrity Test)

Operator Mobil E. & P., Inc. **Date of Test** 3-24-97

Well Name ~~Mobil~~ RU # 18W-32 **EPA Permit No.**

Location Sec. 18 , T41S-R24E **Tribal Lease No.** 14-20-603-353

State and County San Juan County, Utah

Continuous Recorder? YES ☒ NO ☐ **Pressure Gauge?** YES ☒ NO ☐

Bradenhead Opened? YES ☒ NO ☐ **Fluid Flow?** YES ☐ NO ☒

TIME	ANNULUS PRESSURE, psi	TUBING PRESSURE, psi
12:15	1060	2950
12:20	220	
12:25		
12:35		
12:45		

MAX. INJECTION PRESSURE: _____ **PSI**

MAX. ALLOWABLE PRESSURE CHANGE: _____ **PSI (TEST PRESSURE X 0.05)**

REMARKS: **Passed? Failed? If failed, cease injection until well passes MIT (40CFR§144.21(c)(6)).**

FAILED M.I.T.
WELL SHUT-IN

Fritz Johnson — 3-24-97

COMPANY REPRESENTATIVE: **(Print and Sign)** **DATE**

Melvin Capitan Jr. — 3-24-97

INSPECTOR: **(Print and Sign)** **DATE**

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF INSPECTION

Address (EPA Regional Office)	Inspection Contractor	Firm To Be Inspected
Region 9 Environmental Inspection Agency 215 Fremont Street (W-6-2) San Francisco, CA 94105	Navajo EPA ~~THE CADMUS GROUP, INC~~ ~~CORPORATE OFFICE~~ ~~Waltham, MA 02154~~	Mobil E.&P., Inc. P.O Box Dawer G Cortez, Co 81321

Date 3-21-97 Hour 12:30 pm	Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seg.).

Reason For Inspection

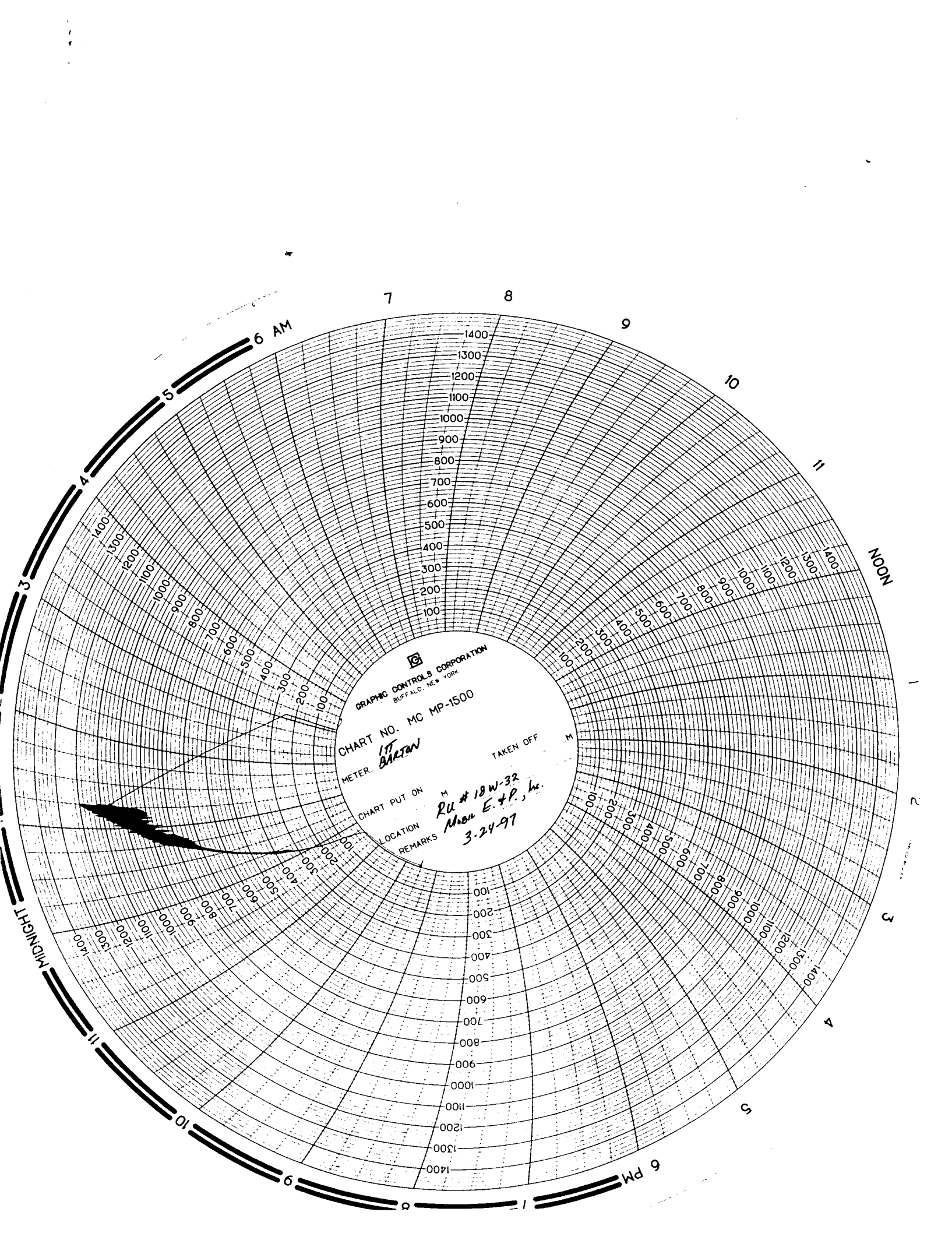
For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

RU#17W-23, WATER INJECTION WELL, M.I.T. - PASSED
RU#17W-34, WATER INJECTION WELL, M.I.T. - PASSED
RU#17W-32, WATER INJECTION WELL, M.I.T. - PASSED
RU#17W-41, WATER INJECTION WELL, M.I.T. - PASSED
RU#18W-14, WATER INJECTION WELL, M.I.T. - PASSED
RU#18W-32, WATER INJECTION WELL, M.I.T. - FAILED
RU#18W-34, WATER INJECTION WELL, M.I.T. - PASSED
RU#19W-21, WATER INJECTION WELL, M.I.T. - PASSED

Section 1445(b) of the SDWA (42 U.S.C. §300 j-4 (b) is quoted on the reverse of this form.

Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative	Date	Inspector
[signature]	3-21-97	[signature]


GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
CHART NO. MC MP-1500
METER ITT BARTON
CHART PUT ON M
TAKEN OFF M
LOCATION RU # 18W-32
REMARKS Moon E. + P., Inc.
3.24-97
6 AM
NOON
6 PM
MIDNIGHT

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: 14-20-603-353
6. If Indian, Allottee or Tribe Name: NAVAJO TRIBAL
7. If Unit or CA, Agreement Designation: RATHERFORD UNIT
8. Well Name and No.: RATHERFORD 18-W-32
9. API Well No.: 43-037-~~31135~~ 15736
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
(SW/NE) 2140' FNL & 1830' FEL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other MIT	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

SEE ATTACHED MIT AND CHART.

RECEIVED
JUN 22 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Sue Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 6-18-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* See Instruction on Reverse Side

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF INSPECTION

Address (EPA Regional Office)	Inspection Contractor	Firm To Be Inspected
Region 9 Environmental Inspection Agency 215 Fremont Street (W-6-2) San Francisco, CA 94105	Navajo EPA ~~THE CADMUS GROUP, INC.~~ ~~CORPORATE OFFICE~~ ~~135 Beaver Street~~ ~~Waltham, MA 02154~~	Mobil E.&P., Inc. P.o Box Dawer G Cortez,Co 81321

Date 5-2-97	Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seg.).
Hour 9:00 AM	

Reason For Inspection

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

✓RU# 18W-32, WATER INJECTION WELL, M.I.T. - PASSED

RU# 13W-11, WATER INJECTION WELL, M.I.T. - PASSED

RU# 19W-12, WATER INJECTION WELL, M.I.T. - PASSED

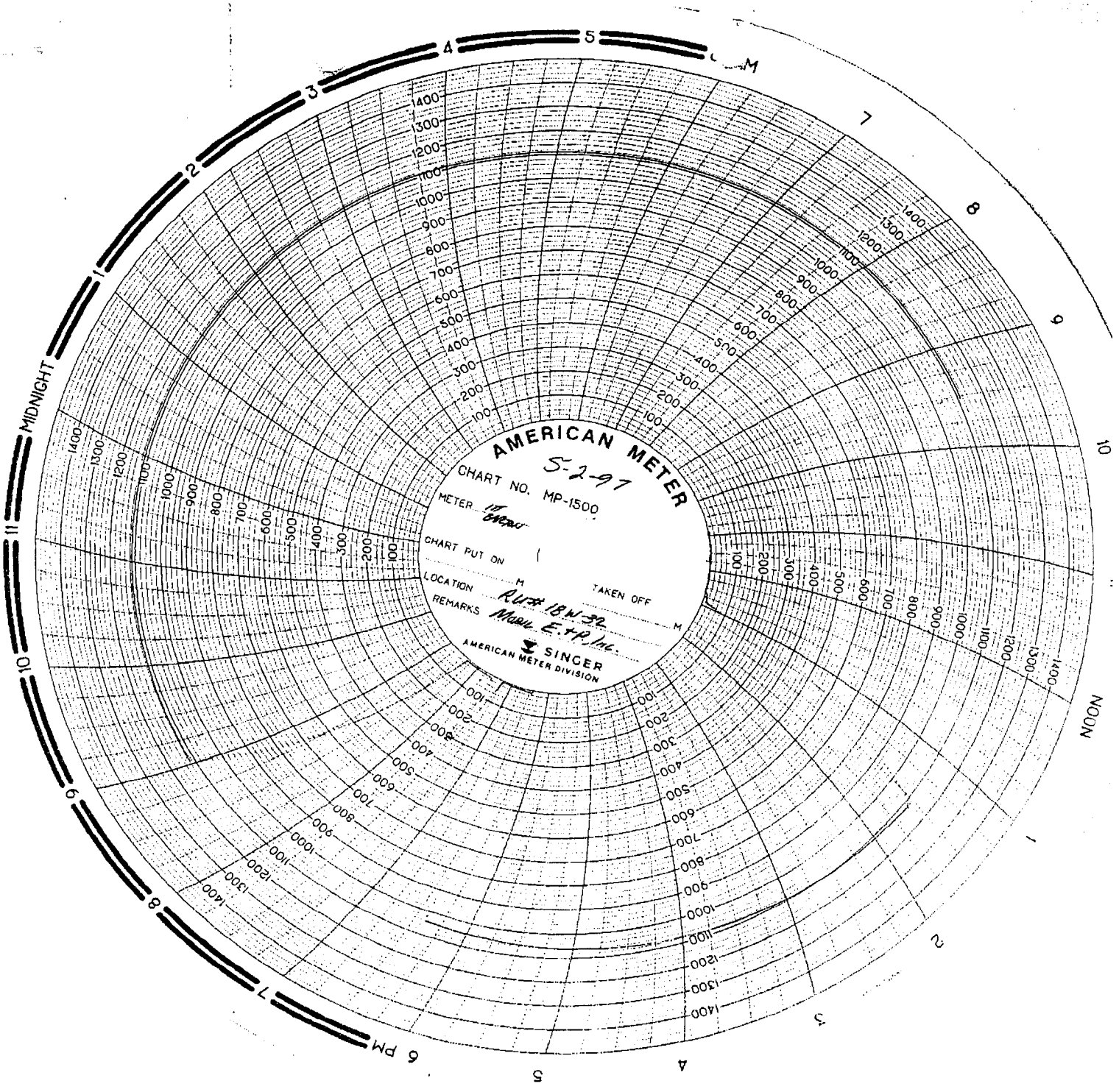
RU# 19W-23, WATER INJECTION WELL, M.I.T. - PASSED

RU# 19W-41, WATER INJECTION WELL, M.I.T. - PASSED

Section 1445(b) of the SDWA (42 U.S.C. §300 j-4 (b) is quoted on the reverse of this form.

Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative	Date	Inspector
	5-2-97	


AMERICAN METER
5-2-97
CHART NO. MP-1500
METER
CHART PUT ON
LOCATION
TAKEN OFF
REMARKS
SINGER
AMERICAN METER DIVISION
MIDNIGHT
NOON
6 PM

ANNULAR PRESSURE TEST
(Mechanical Integrity Test)

Operator Mobil E. & P., Inc. **Date of Test** 5-2-97

Well Name ~~Navajo~~ RU # 16W-32 **EPA Permit No.**

Location Sec. 18, T41S-R24E **Tribal Lease No.** 14-20-603-355

State and County San Juan County, Utah

Continuous Recorder? YES ☒ NO ☐ **Pressure Gauge?** YES ☒ NO ☐

Bradenhead Opened? YES ☐ NO ☒ **Fluid Flow?** YES ☐ NO ☐

TIME	ANNULUS PRESSURE, psi	TUBING PRESSURE, psi
9:45	1115	2000
9:50	1115	2000
9:55	1110	2000
10:05	1110	2000
10:15	1110	2000

MAX. INJECTION PRESSURE: _____ **PSI**

MAX. ALLOWABLE PRESSURE CHANGE: _____ **PSI (TEST PRESSURE X 0.05)**

REMARKS: **Passed? Failed? If failed, cease injection until well passes MIT (40CFR§144.21(c)(6)).**

PASSED M.I.T.

Fritz Johnson _____ 5-2-97

COMPANY REPRESENTATIVE: (Print and Sign) **DATE**

Melvin Capitan Jr. _____ 5-2-97

INSPECTOR: (Print and Sign) **DATE**

ExxonMobil Production Comp
U.S. West
P.O. Box 4358
Houston, Texas 77210-4358

June 27, 2001

ExxonMobil
Production

Mr. Jim Thompson
State of Utah, Division of Oil, Gas and Mining
1549 West North Temple
Suite 1210
Salt Lake City, UT 84114-5801

Change of Name – Mobil Oil Corporation to
ExxonMobil Oil Corporation

Dear Mr. Thompson

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

A copy of the Certification, Bond Rider and a list of wells are attached.

If you have any questions please feel free to call Joel Talavera at 713-431-1010

Very truly yours,
Charlotte H. Harper

Charlotte H. Harper
Permitting Supervisor

ExxonMobil Production Company
a division of Exxon Mobil Corporation,
acting for ExxonMobil Oil Corporation

United States Department of the Interior

IN REPLY REFER TO:

BUREAU OF INDIAN AFFAIRS
~~XXXXXXXXXXXXXX~~
Navajo Area Office
NAVAJO REGION
P.O. Box 1060
Gallup, New Mexico 87305-1060

RRES/543

AUG 3 0 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Charlotte H. Harper, Permitting Supervisor
Exxon Mobil Production Company
U. S. West
P. O. Box 4358
Houston, TX 77210-4358

Dear Ms. Harper:

This is to acknowledge receipt of your company's name change from Mobil Oil Corporation to ExxonMobil Oil Corporation effective June 1, 2001. The receipt of documents includes the Name Change Certification, current listing of Officers and Directors, Listing of Leases, Financial Statement, filing fees of $75.00 and a copy of the Rider for Bond Number 8027 31 97. There are no other changes.

Please note that we will provide copies of these documents to other concerned parties. If you need further assistance, you may contact Ms. Bertha Spencer, Realty Specialist, at (928) 871-5938.

Sincerely,

DENNIS DENETSONE

Regional Realty Officer

cc: BLM, Farmington Field Office w/enclosures
Navajo Nation Minerals Office, Attn: Mr. Akhtar Zaman, Director/w enclosures

MINERAL RESOURCES
ADM BLM
NATV AM MIN COORD
SOLID MIN TEAM
PETRO MGMT TEAM 2
O & G INSPECT TEAM
ALL TEAM LEADERS
LAND RESOURCES
ENVIRONMENT
FILES

ExxonMobil Production Company
U.S. West
P.O. Box 4358
Houston, Texas 77210-4358

BS 7/12/2001 GN 543 File

June 27, 2001

ExxonMobil Production

Certified Mail
Return Receipt Requested

Ms. Genni Denetsone
United States Department of the Interior
Bureau of Indian Affairs, Navajo Region
Real Estate Services
P. O. Box 1060
Gallup, New Mexico 87305-1060
Mail Code 543

Change of Name –
Mobil Oil Corporation to
ExxonMobil Oil Corporation

Dear Ms. Denetsone:

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

Attached is the Name Change Certification, Current listing of Officers and Directors, Filing Fee of $75/-, Listing of Leases, Financial Statement and a copy of the Rider for Bond number 8027 31 97. The original Bond Rider has been sent to Ms. Barbar Davis at your Washington Office.

If you have any questions , please contact Alex Correa at (713) 431-1012.

Very truly yours,

Charlotte H. Harper

Charlotte H. Harper
Permitting Supervisor

Attachments

ExxonMobil Production Company
a division of Exxon Mobil Corporation,
acting for ExxonMobil Oil Corporation

NOTE: Check forwarded to Ella Jassi

Bureau of Indian Affairs
Navajo Region Office
Attn: RRES - Mineral and Mining Section
P.O. Box 1060
Gallup, New Mexico 87305-1060

Gentlemen:

The current listing of officers and director of ExxonMobil Oil Corporation (Name of Corporation), of New York (State) is as follows:

OFFICERS

President	F.A. Risch	Address	5959 Las Colinas Blvd. Irving, TX 75039
Vice President	K.T. Koonce	Address	800 Bell Street Houston, TX 77002
Secretary	F.L. Reid	Address	5959 Las Colinas Blvd. Irving, TX 75039
Treasure	B.A. Maher	Address	5959 Las Colinas Blvd. Irving, TX 75039

DIRECTORS

Name	D.D. Humphreys	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	P.A. Hanson	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	T.P. Townsend	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	B.A. Maher	Address	5959 Las Colinas Blvd. Irving, TX 75039
Name	F.A. Risch	Address	5959 Las Colinas Blvd. Irving, TX 75039

Sincerely,

Alex Correa

This is to certify that the above information pertaining to ExxonMobil Oil Corporation (Corporation) is trust and correct as evidenced by the records and accounts covering business for the State of Utah and in the custody of Corporation Service Company (Agent), Phone: 1 (800)927-9800, whose business address is One Utah Center, 201 South Main Street, Salt Lake City, Utah 84111-2218

(CORPORATE SEAL)

Signature

AGENT AND ATTORNEY IN FACT

Title

SAL

CERTIFICATION

I, the undersigned Assistant Secretary of ExxonMobil Oil Corporation. (formerly Mobil Oil Corporation), a corporation organized and existing under the laws of the State of New York, United States of America, DO HEREBY CERTIFY, That, the following is a true and exact copy of the resolutions adopted by the Board of Directors on May 22, 2001:

CHANGE OF COMPANY NAME

WHEREAS, the undersigned Directors of the Corporation deem it to be in the best interest of the Corporation to amend the Certificate of Incorporation of the Corporation to change the name and principal office of the Corporation:

NOW THEREFORE BE IT RESOLVED, That Article 1st relating to the corporate name is hereby amended to read as follows:

"1st The corporate name of said Company shall be,

ExxonMobil Oil Corporation",

FURTHER RESOLVED, That the amendment of the Corporation's Certificate of Incorporation referred to in the preceding resolutions be submitted to the sole shareholder of the Corporation entitled to vote thereon for its approval and, if such shareholder gives its written consent, pursuant to Section 803 of the Business Corporation Law of the State of New York, approving such amendment, the proper officers of the Corporation be, and they hereby are, authorized to execute in the name of the Corporation the Certificate of Amendment of Certificate of Incorporation, in the form attached hereto;

FURTHER RESOLVED, That the proper officers of the Corporation be and they hereby are authorized and directed to deliver, file and record in its behalf, the Certificate of Amendment of Certificate of Incorporation, and to take such action as may be deemed necessary or advisable to confirm and make effective in all respects the change of this Company's name to EXXONMOBIL OIL CORPORATION.

WITNESS, my hand and the seal of the Corporation at Irving, Texas, this 8th day of June, 2001.

S. A. Millican
Assistant Secretary

COUNTY OF DALLAS)
STATE OF TEXAS)
UNITED STATES OF AMERICA)
Sworn to and subscribed before me at Irving, Texas, U. S. A. on this the 8th day of June, 2001.

Janice M. Phillips
Notary Public

LISTING OF LEASES OF MOBIL OIL CORPORATION

	Lease Number
1)	14-20-0603-6504
2)	14-20-0603-6505
3)	14-20-0603-6506
4)	14-20-0603-6508
5)	14-20-0603-6509
6)	14-20-0603-6510
7)	14-20-0603-7171
8)	14-20-0603-7172A
9)	14-20-600-3530
10)	14-20-603-359
11)	14-20-603-368
12)	14-20-603-370
13)	14-20-603-370A
14)	14-20-603-372
15)	14-20-603-372A
16)	14-20-603-4495
17)	14-20-603-5447
18)	14-20-603-5448
19)	14-20-603-5449
20)	14-20-603-5450
21)	14-20-603-5451

6/1/01

CHUBB GROUP OF INSURANCE COMPANIES

[illegible] South, Suite [illegible], Houston, Texas [illegible]
[illegible] 927-4600 • Facsimile (713) 297-4750

NW Bond

FEDERAL INSURANCE COMPANY RIDER
to be attached to and form a part of

BOND NO 8027 31 97
wherein
Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc. is named as Principal and

FEDERAL INSURANCE COMPANY AS SURETY,

in favor of **United States of America, Department of the Interior Bureau of Indian Affairs**

in the amount of **$150,000.00**
bond date: 11/01/65

IT IS HEREBY UNDERSTOOD AND AGREED THAT effective **June 1, 2001** the name of the Principal is changed

FROM: **Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc.**

TO : **ExxonMobil Oil Corporation**

All other terms and conditions of this Bond are unchanged.

Signed, sealed and dated this 12th of June, 2001.

ExxonMobil Oil Corporation

By: _____

FEDERAL INSURANCE COMPANY

By: Mary Pierson
Mary Pierson, Attorney-in-fact

Chubb Surety	POWER OF ATTORNEY	Federal Insurance Company Vigilant Insurance Company Pacific Indemnity Company	Attn.: Surety Department 15 Mountain View Road Warren, NJ 07059

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint

Mary Pierson, Philana Berros, and Jody E. Specht of Houston, Texas---------- R.F. Bobo,

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 10th day of May, 2001.

Kenneth C. Wendel, Assistant Secretary

Frank E. Robertson, Vice President

STATE OF NEW JERSEY }
County of Somerset } ss.

On this 10th day of May, 2001, before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By-Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with Frank E. Robertson, and knows him to be Vice President of said Companies; and that the signature of Frank E. Robertson, subscribed to said Power of Attorney is in the genuine handwriting of Frank E. Robertson, and was thereto subscribed by authority of said Companies and in deponent's presence.

Karen A. Price

Notarial Seal

KAREN A. PRICE NOTARY PUBLIC NEW JERSEY

Notary Public State of New Jersey
No. 2231647
Commission Expires Oct. 28, 2004

Notary Public

CERTIFICATION

Extract from the By-Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing extract of the By-Laws of the Companies is true and correct,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U. S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U. S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 12th day of June, 2001.

FEDERAL INSURANCE COMPANY INDIANA

PACIFIC INDEMNITY COMPANY WISCONSIN

VIGILANT INSURANCE COMPANY NEW YORK

Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY
Telephone (908) 903-3485 Fax (908) 903-3656 e-mail: surety@chubb.com

15-10-0225 (Ed. 4-99) CONSENT

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

OF

MOBIL OIL CORPORATION

(Under Section 805 of the Business Corporation Law)

Pursuant to the provisions of Section 805 of the Business Corporation Law, the undersigned President and Secretary, respectively, of Mobil Oil Corporation hereby certify:

FIRST: That the name of the corporation is MOBIL OIL CORPORATION and that said corporation was incorporated under the name of Standard Oil Company of New York.

SECOND: That the Certificate of Incorporation of the corporation was filed by the Department of State, Albany, New York, on the 10th day of August, 1882.

THIRD: That the amendments to the Certificate of Incorporation effected by this Certificate are as follows:

(a) Article 1st of the Certificate of Incorporation, relating to the corporate name, is hereby amended to read as follows:

"1st The corporate name of said Company shall be,

ExxonMobil Oil Corporation",

(b) Article 7th of the Certificate of Incorporation, relating to the office of the corporation is hereby amended to read as follows:

The office of the corporation within the State of New York is to be located in the County of Albany. The Company shall have offices at such other places as the Board of Directors may from time to time determine.

FOURTH: That the amendments to the Certificate of Incorporation were authorized by the Board of Directors followed by the holder of all outstanding shares entitled to vote on amendments to the Certificate of Incorporation by written consent of the sole shareholder dated May 22, 2001.

IN WITNESS WHEREOF, this Certificate has been signed this 22nd Day of May, 2001.

F. A. Ritch, President

STATE OF TEXAS)
COUNTY OF DALLAS)

F. L. REID, being duly sworn, deposes and says that he is the Secretary of MOBIL OIL CORPORATION, the corporation mentioned and described in the foregoing instrument; that he has read and signed the same and that the statements contained therein are true.

F. L. REID, Secretary

SUBSCRIBED AND SWORN TO before me, the undersigned authority, on this the 22nd day of May, 2001.

[SEAL]

NOTARY PUBLIC, STATE OF TEXAS

JANICE M. PHILLIPS
MY COMMISSION EXPIRES
May 16, 2002

CSC
CSC

5184334741

06/01 '01 09:01 NO.411 02/02
06/01 '01 09:06 NO.155 04/04

F010601000187

CSC 45

CERTIFICATE OF AMENDMENT

OF

MOBIL OIL CORPORATION

Under Section 805 of the Business Corporation Law

SAC

100 cc

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN 01 2001
TAX $
BY: SAC

Filed by: EXXONMOBIL CORPORATION
(Name)

5959 Las Colinas Blvd.
(Mailing address)

Irving, TX 75039-2298
(City, State and Zip code)

NY Albany

Cust Ref # 1655781MPJ

RECEIVED
JUL 05 2001
CORPORATION SERVICE
COMPANY TAX & REAL ESTATE SERVICES

010601000195

State of New York }
Department of State } *ss:*

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.

Witness my hand and seal of the Department of State on JUN 01 2001

STATE OF NEW YORK
DEPARTMENT OF STATE
EXCELSIOR

Special Deputy Secretary of State

DOS-1266 (7/00)

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. GLH
2. CDW
3. FILE

Change of Operator (Well Sold) — Designation of Agent

X Operator Name Change — Merger

The operator of the well(s) listed below has changed, effective: **06-01-2001**

FROM: (Old Operator):	**TO:** (New Operator):
MOBIL EXPLORATION & PRODUCTION	EXXONMOBIL OIL CORPORATION
Address: P O BOX DRAWER "G"	Address: U S WEST P O BOX 4358
CORTEZ, CO 81321	HOUSTON, TX 77210-4358
Phone: 1-(970)-564-5212	Phone: 1-(713)-431-1010
Account No. N7370	Account No. N1855

CA No. **Unit:** **RATHERFORD**

WELL(S)

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
NAVAJO A-9 (RATHERFORD 16W23)	16-41S-24E	43-037-15722	99990	INDIAN	WI	A
NAVAJO A-12 (RATHERFORD 16W21)	16-41S-24E	43-037-16414	99990	INDIAN	WI	A
RATHERFORD 16W43	16-41S-24E	43-037-16415	99990	INDIAN	WI	A
RATHERFORD 17-W-12	17-41S-24E	43-037-15726	6280	INDIAN	WI	A
17-14	17-41S-24E	43-037-15727	6280	INDIAN	WI	A
RATHERFORD 17-W-23	17-41S-24E	43-037-15728	6280	INDIAN	WI	A
17-32	17-41S-24E	43-037-15729	6280	INDIAN	WI	A
17-34	17-41S-24E	43-037-15730	6280	INDIAN	WI	A
17-41	17-41S-24E	43-037-15731	6280	INDIAN	WI	I
RATHERFORD 17-W-21	17-41S-24E	43-037-16416	99990	INDIAN	WI	A
RATHERFORD 17W43	17-41S-24E	43-037-16417	99990	INDIAN	WI	A
RATHERFORD 18-W-14	18-41S-24E	43-037-15735	6280	INDIAN	WI	A
18-W-32	18-41S-24E	43-037-15736	6280	INDIAN	WI	A
RATHERFORD 18-W-34	18-41S-24E	43-037-15737	6280	INDIAN	WI	A
DESERT A-4 (RATHERFORD 18W41)	18-41S-24E	43-037-15738	99990	INDIAN	WI	A
DESERT A-3 (RATHERFORD 18-W-21)	18-41S-24E	43-037-16418	99990	INDIAN	WI	A
18-23	18-41S-24E	43-037-30244	6280	INDIAN	WI	A
RATHERFORD U 18-W-12 (SDTRK)	18-41S-24E	43-037-31153	6280	INDIAN	WI	A
RATHERFORD UNIT 18-W-43B	18-41S-24E	43-037-31718	6280	INDIAN	WI	A
RATHERFORD U 19-W-12	19-41S-24E	43-037-15739	6280	INDIAN	WI	A

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/29/2001
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/29/2001
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 04/09/2002
4. Is the new operator registered in the State of Utah: YES Business Number: 579865-0143
5. If **NO**, the operator was contacted contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BIA-06/01/01

7. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: 06/01/2001

8. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A
NOTE: EPA ISSUES UIC PERMIT

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 04/11/2002
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 04/11/2002
3. Bond information entered in RBDMS on: N/A
4. Fee wells attached to bond in RBDMS on: N/A

STATE WELL(S) BOND VERIFICATION:

1. State well(s) covered by Bond Number: N/A

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: N/A

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: 80273197

FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number N/A

2. The **FORMER** operator has requested a release of liability from their bond on: N/A
The Division sent response by letter on: N/A

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

COMMENTS:

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

X Change of Operator (Well Sold) Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective: **6/1/2006**

FROM: (Old Operator):	**TO:** (New Operator):
N1855-ExxonMobil Oil Corporation	N2700-Resolute Natural Resources Company
PO Box 4358	1675 Broadway, Suite 1950
Houston, TX 77210-4358	Denver, CO 80202
Phone: 1 (281) 654-1936	Phone: 1 (303) 534-4600

CA No. **Unit:** **RATHERFORD (UIC)**

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 4/21/2006
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 4/24/2006
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 6/7/2006
4. Is the new operator registered in the State of Utah: YES Business Number: 5733505-0143
5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: requested

6b. Inspections of LA PA state/fee well sites complete on: n/a

6c. Reports current for Production/Disposition & Sundries on: ok

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM n/a BIA not yet
8. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
9. **Federal and Indian Communization Agreements ("CA"):** The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 6/12/2006

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 6/22/2006
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 6/22/2006
3. Bond information entered in RBDMS on: n/a
4. Fee/State wells attached to bond in RBDMS on: n/a
5. Injection Projects to new operator in RBDMS on: 6/22/2006
6. Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a
2. Indian well(s) covered by Bond Number: PA002769
3. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a

a. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

Well Name and Number	API Number
See attached list	Attached
Location of Well	**Field or Unit Name**
Footage : See attached list County : San Juan	Ratherford Unit
QQ, Section, Township, Range: State : UTAH	**Lease Designation and Number** See attached list

EFFECTIVE DATE OF TRANSFER: 6/1/2006

CURRENT OPERATOR

Company: Exxon Mobil Oil Corporation
Address: PO Box 4358
city Houston state TX zip 77210-4358
Phone: (281) 654-1936
Name:
Signature:
Title:
Date:
Comments: Exxon Mobil has submitted a separate, signed copy of UIC Form 5

NEW OPERATOR

Company: Resolute Natural Resources Company
Address: 1675 Broadway, Suite 1950
city Denver state CO zip 80202
Phone: (303) 534-4600
Name: Dwight E Mallory
Signature:
Title: Regulatory Coordinator
Date: 4/20/2006
Comments: A list of affected UIC wells is attached.
New bond numbers for these wells are:
BIA Bond # PA002769 and US EPA Bond # B001252

(This space for State use only)

Transfer approved by:
Title: Field Operations Manager
Approval Date: 6/12/06

Comments:

RECEIVED
APR 24 2006
DIV. OF OIL, GAS & MINING

(5/2000)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: See attached list
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo Tribe
7. UNIT or CA AGREEMENT NAME: Ratherford Unit
8. WELL NAME and NUMBER: See attached list
9. API NUMBER: Attached
10. FIELD AND POOL, OR WILDCAT: Greater Aneth

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Unit Agreement

2. NAME OF OPERATOR: Resolute Natural Resources Company N2700

3. ADDRESS OF OPERATOR: 1675 Broadway, Suite 1950 CITY Denver STATE CO ZIP 80202 PHONE NUMBER: (303) 534-4600

4. LOCATION OF WELL
FOOTAGES AT SURFACE: See attached list COUNTY: San Juan
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective June 1, 2006 Exxon Mobil Oil Corporation resigns as operator of the Ratherford Unit. Also effective June 1, 2006 Resolute Natural Resources Company is designated as successor operator of the Ratherford Unit.

A list of affected producing and water source wells is attached. A separate of affected injection wells is being submitted with UIC Form 5, Transfer of Authority to Inject.

As of the effective date, bond coverage for the affected wells will transfer to BIA Bond # PA002769.

NAME (PLEASE PRINT) Dwight E Mallory TITLE Regulatory Coordinator

SIGNATURE D.E. Mallory DATE 4/20/2006

(This space for State use only)

APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

RECEIVED
APR 24 2006
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ship Rock

7. UNIT or CA AGREEMENT NAME: UTU68931A

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Injection

8. WELL NAME and NUMBER: Ratherford

2. NAME OF OPERATOR: ExxonMobil Oil Corporation N1855

9. API NUMBER: attached

3. ADDRESS OF OPERATOR: P.O. Box 4358 CITY Houston STATE TX ZIP 77210-4358

PHONE NUMBER: (281) 654-1936

10. FIELD AND POOL, OR WILDCAT: Aneth

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: San Juan

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 6/1/2006	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

ExxonMobil Oil Corporation is transferring operatorship of Greater Aneth field, Ratherford lease to Resolute Natural Resources Company. All change of operator notices should be made effective as of 7:00 AM MST on June 1, 2006.

Attached please find a listing of injection wells included in the transfer.

NAME (PLEASE PRINT) Laurie Kilbride TITLE Permitting Supervisor

SIGNATURE Laurie S. Kilbride DATE 4/19/2006

(This space for State use only) APPROVED 6/27/06

Earlene Russell

Division of Oil, Gas and Mining

Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

RECEIVED

APR 21 2006

DIV. OF OIL, GAS & MINING

(5/2000)

GREATER ANETH FIELD UIC WELL LIST
Ratherford lease, San Juan County, Utah

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	1W24	430371583900S1	Shut-in	14-20-603-246A	NE	SE	1	41S	23E	0651FSL	3300FEL
RATHERFORD UNIT	2W44	430371638600S1	Active	14-20-603-246A	SE	SE	2	41S	23E	0810FSL	0510FEL
RATHERFORD UNIT	11W42	430371584100S1	Active	14-20-603-246A	SE	NE	11	41S	23E	3290FSL	4617FWL
RATHERFORD UNIT	11W44	430371584200S1	Shut-in	14-20-603-246A	SE	SE	11	41S	23E	0660FSL	0558FEL
RATHERFORD UNIT	12W11	430371584300S1	Active	14-20-603-246A	NW	NW	12	41S	23E	0678FNL	4620FEL
RATHERFORD UNIT	12W13	430371640400S1	Active	14-20-603-246A	NW	SW	12	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	12W22	430371584501S1	Active	14-20-603-246A	SE	NW	12	41S	23E	1920FNL	2080FWL
RATHERFORD UNIT	12W24	430373115101S1	Active	14-20-603-246A	SE	SW	12	41S	23E	0775FSL	1980FWL
RATHERFORD UNIT	12W31	430371584700S1	Active	14-20-603-246A	NW	NE	12	41S	23E	0661FNL	1981FEL
RATHERFORD UNIT	12W33	430371584800S1	Active	14-20-603-246A	NW	SE	12	41S	23E	1958FSL	3300FEL
RATHERFORD UNIT	12W42	430371585000S1	Active	14-20-603-246A	SE	NE	12	41S	23E	3275FSL	0662FEL
RATHERFORD UNIT	12W44A	430373154300S1	Shut-in	14-20-603-246A	SE	SE	12	41S	23E	0772FSL	0807FEL
RATHERFORD UNIT	13W11	430373115201S1	Active	14-20-603-247A	NW	NW	13	41S	23E	0500FNL	0660FWL
RATHERFORD UNIT	13W13	430371585100S1	Active	14-20-603-247A	NW	SW	13	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	13W22	430371585200S1	Active	14-20-603-247A	SE	NW	13	41S	23E	1988FNL	3300FEL
RATHERFORD UNIT	13W24	430371585300S1	Active	14-20-603-247A	SE	SW	13	41S	23E	0660FSL	3300FEL
RATHERFORD UNIT	13W33	430371585501S1	Active	14-20-603-247A	NW	SE	13	41S	23E	1970FSL	1979FEL
RATHERFORD UNIT	13W42	430371585700S1	Shut-in	14-20-603-247A	SE	NE	13	41S	23E	2139FNL	0585FEL
RATHERFORD UNIT	13W44	430371640700S1	Active	14-20-603-247A	SE	SE	13	41S	23E	0653FSL	0659FEL
RATHERFORD UNIT	14-31	430373171700S1	Active	14-20-603-247A	NW	NE	14	41S	23E	0754FNL	1604FEL
RATHERFORD UNIT	14W42	430371586001S1	Active	14-20-603-247A	SE	NE	14	41S	23E	1976FNL	653FEL
RATHERFORD UNIT	24W31	430371586200S1	Shut-in	14-20-603-247A	NW	NE	24	41S	24E	0560FNL	1830FEL
RATHERFORD UNIT	24W42	430371586300S1	Shut-in	14-20-603-247A	SE	NE	24	41S	24E	1980FNL	0660FEL
RATHERFORD UNIT	17W12	430371572601S1	Active	14-20-603-353	SW	NW	17	41S	24E	1980FNL	510FWL
RATHERFORD UNIT	17W14	430371572700S1	Active	14-20-603-353	SW	SW	17	41S	24E	0610FSL	0510FWL
RATHERFORD UNIT	17W21	430371641601S1	Active	14-20-603-353	NE	NW	17	41S	24E	0510FNL	1830FWL
RATHERFORD UNIT	17W23	430371572801S1	Active	14-20-603-353	NE	SW	17	41S	24E	1880FSL	1980FWL
RATHERFORD UNIT	17W32	430371572900S1	TA'd	14-20-603-353	SW	NE	17	41S	24E	1830FNL	2030FEL
RATHERFORD UNIT	17W34	430371573000S1	Active	14-20-603-353	SW	SE	17	41S	24E	0560FSL	1880FEL
RATHERFORD UNIT	17W41	430371573100S1	Shut-in	14-20-603-353	NE	NE	17	41S	24E	0610FNL	0510FEL
RATHERFORD UNIT	17W43	430371641701S1	Active	14-20-603-353	NE	SE	17	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	18-43B	430373171801S1	Active	14-20-603-353	NE	SE	18	41S	24E	2023FSL	0651FEL
RATHERFORD UNIT	18W12	430373115301S1	Active	14-20-603-353	SW	NW	18	41S	24E	1980FNL	560FWL
RATHERFORD UNIT	18W14	430371573501S1	Active	14-20-603-353	SW	SW	18	41S	24E	0810FSL	0600FWL
RATHERFORD UNIT	18W21	430371641801S1	Active	14-20-603-353	NE	NW	18	41S	24E	660FNL	1882FWL
RATHERFORD UNIT	18W23	430373024400S1	Shut-in	14-20-603-353	NE	SW	18	41S	24E	2385FSL	2040FWL
RATHERFORD UNIT	18W32	430371573601S1	Active	14-20-603-353	SW	NE	18	41S	24E	2140FNL	1830FEL
RATHERFORD UNIT	18W34	430371573701S1	Active	14-20-603-353	SW	SE	18	41S	24E	780FSL	1860FEL
RATHERFORD UNIT	18W41	430371573800S1	TA'd	14-20-603-353	NE	NE	18	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	19-12	430371573901S1	Active	14-20-603-353	SW	NW	19	41S	24E	1980FNL	0600FWL
RATHERFORD UNIT	19-32	430371574301S1	Active	14-20-603-353	SW	NE	19	41S	24E	2717FNL	2802FEL
RATHERFORD UNIT	19-34	430371574401S1	Active	14-20-603-353	SW	SE	19	41S	24E	0660FSL	1980FEL
RATHERFORD UNIT	19W21	430371574100S1	Shut-in	14-20-603-353	NE	NW	19	41S	24E	0660FNL	1860FWL
RATHERFORD UNIT	19W23	430371574200S1	Shut-in	14-20-603-353	NE	SW	19	41S	24E	2080FSL	1860FWL
RATHERFORD UNIT	19W43	430371642000S1	Shut-in	14-20-603-353	NE	SE	19	41S	24E	1980FSL	0760FEL
RATHERFORD UNIT	20-12	430371574601S1	Active	14-20-603-353	SW	NW	20	41S	24E	0709FNL	0748FEL
RATHERFORD UNIT	20-14	430371574701S1	Active	14-20-603-353	SW	SW	20	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	20-32	430371574901S1	Active	14-20-603-353	SW	NE	20	41S	24E	0037FNL	0035FWL
RATHERFORD UNIT	20-34	430371575001S1	Active	14-20-603-353	SW	SE	20	41S	24E	0774FNL	0617FWL
RATHERFORD UNIT	20-67	430373159000S1	Active	14-20-603-353	NE	SW	20	41S	24E	2629FSL	1412FWL
RATHERFORD UNIT	20W21	430371642300S1	Active	14-20-603-353	NE	NW	20	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	20W23	430371574800S1	Active	14-20-603-353	NW	SW	20	41S	24E	2080FSL	2120FWL
RATHERFORD UNIT	20W41	430371575100S1	Active	14-20-603-353	NE	NE	20	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	20W43	430371642400S1	TA'd	14-20-603-353	NE	SE	20	41S	24E	2070FSL	0810FEL
RATHERFORD UNIT	16W12	430371572000S1	Active	14-20-603-355	SW	NW	16	41S	24E	1880FNL	0660FWL

GREATER ANETH FIELD UIC WELL LIST
Ratherford lease, San Juan County, Utah

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	16W14	430371572100S1	Shut-in	14-20-603-355	SW	SW	16	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	16W21	430371641400S1	Active	14-20-603-355	NE	NW	16	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	16W23	430371572201S1	Active	14-20-603-355	NE	SW	16	41S	24E	1980FSL	1980FWL
RATHERFORD UNIT	16W43	430371641501S1	Active	14-20-603-355	NE	SE	16	41S	24E	2140FSL	0820FEL
RATHERFORD UNIT	21-14	430371575301S1	Active	14-20-603-355	SW	SW	21	41S	24E	0660FSL	0460FWL
RATHERFORD UNIT	21-67	430373175301S1	Active	14-20-603-355	NE	SW	21	41S	24E	2560FSL	1325FWL
RATHERFORD UNIT	21W21	430371642501S1	Active	14-20-603-355	NE	NW	21	41S	24E	0660FNL	2030FWL
RATHERFORD UNIT	**6W14**	430371598400S1	Active	14-20-603-368	NE	SE	6	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	7W12	430371598500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2140FNL	0585FWL
RATHERFORD UNIT	7W14	430371598600S1	Active	14-20-603-368	NE	SE	7	41S	24E	1065FSL	0660FWL
RATHERFORD UNIT	7W21	430371639400S1	Active	14-20-603-368	NE	NW	7	41S	24E	0710FNL	1820FWL
RATHERFORD UNIT	7W34	430371598900S1	Active	14-20-603-368	SW	SE	7	41S	24E	0710FSL	2003FEL
RATHERFORD UNIT	7W43	430371639500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2110FSL	0660FEL
RATHERFORD UNIT	**8W14**	430371599200S1	Active	14-20-603-368	SW	NE	8	41S	24E	0745FSL	0575FWL
RATHERFORD UNIT	10W43	430371640300S1	TA'd	14-20-603-4037	NE	SE	10	41S	24E	1980FSL	0550FEL
RATHERFORD UNIT	29-12	430371533701S1	Active	14-20-603-407	SW	**NW**	29	41S	24E	2870FNL	1422FWL
RATHERFORD UNIT	29-32	430371533901S1	Active	14-20-603-407	SW	NE	29	41S	24E	0694FNL	0685FWL
RATHERFORD UNIT	29W21	430371643200S1	Active	14-20-603-407	NE	NW	29	41S	24E	0667FNL	2122FWL
RATHERFORD UNIT	29W41	430371643300S1	Active	14-20-603-407	NE	NE	29	41S	24E	0557FNL	0591FEL
RATHERFORD UNIT	29W43	430371643400S1	Shut-in	14-20-603-407	NE	SE	29	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	30W41	430371534300S1	Shut-in	14-20-603-407	NE	NE	30	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	28-12	430371533601S1	Active	14-20-603-409	SW	SE	28	41S	24E	2121FNL	0623FWL
RATHERFORD UNIT	28W21	430371643100S1	Shut-in	14-20-603-409	NE	NW	28	41S	24E	0660FNL	2022FWL
RATHERFORD UNIT	9W23	430371639800S1	Active	14-20-603-5046	NW	SE	9	41S	24E	1980FSL	1980FWL